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Official Organ of the American Homœopathic Ophthalmological, Otological
and Laryngological Society

THE JOURNAL OF OPHTHALMOLOGY OTOLOGY AND LARYNGOLOGY

Devoted to the Interests of Exclusivists, Specialists and General Practitioners

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VOLUME XVII.

JANUARY TO DECEMBER, 1911

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INDEX TO VOLUME XVII

Abstracts of papers for Newport meeting	186, 217, 244, 479
Acrophobia (note)	58
Adrenalin solutions (note)	58
Advancement, RITCHIE's operations	155
Alcohol infiltration of superior laryngeal nerve to relieve pain (absts.)	264, 366
Argyrol (note)	411
Argyrosis of conjunctiva (note)	46
Arterial tension (note)	224
Atoxyl (note)	67
Atrophic rhinitis (note)	259
Atropin locally as a therapeutic agent in the eyes. H. D. SCHENCK	72
Bacillus pyocyaneus (note)	278
BEDFORD, E. R., Intubation in the dorsal position	165
BISSELL, ELMER JEFFERSON, The electric ophthalmoscope	257
Bleeding into the anterior chamber. A case. G. DEWAYNE HALLETT	97
Blood pressure (note)	278
Blood pressure as a factor in eye diseases. R. S. COPELAND	370
Blood pressure, from standpoint of physiologist and pathologist. G. F. LAIDLAW	361
Blood pressure and throat diseases. Relation between. A. C. TENNEY	367
Book Reviews: GLEASON—Manual, 2d <i>ed.</i> , 36; Blakiston's Visiting List, 1911, 36; OSTROM—Leucorrhœa, 68; NASH—Testimony of the Clinic, 68; VECKI—Prevention of Sexual Diseases, 110; ADAM—Treatment for Diseases of the Eye, 110; GORTON—History of Medicine, 111; BALLINGER—3d <i>ed.</i> , Nose, Throat and Ear, 194; SOUTER—Refractive and Motor Mechanism of the Eye, 225; BARNHILL and WALES—Modern Otology, 2d <i>ed.</i> , 225; PIERCE—Materia Medica, 226; MOFFAT E. V.—How Shall We Tell It To Our Children? 266; WEEKS—The Eye, 266; STEADMAN—Medical Dictionary, 267; LOWRY—Truths and Confidences, 268; ANON.—Litoria aliena, 268; FEIN—Hints in Rhinology and Laryngology, 306; REIK—Ear, Nose and Throat, 307; DAY and HOYLE—International Homœopathic Directory, 309; BECK—Bismuth Paste, 310; NEATBY—The Place of Operation for Uterine Fibroids, 355; BECHAMP—The Blood, 356; COLLINS & MAYOU—Ophthalmic Pathology and Bacteriology, 401; KENT—Materia Medica, 2d <i>ed.</i> , 403; MILLIGAN & WINGRAVE—The Ear, 439; Medical Directory of N. Y., N. J. and Conn., 1911, vol. xiii	478
BROOKS, E. D., Nonoperative sinus treatment	131
CAMPBELL, JAMES A., Phlyctenular ophthalmia from a homœopathic standpoint	206
Cases where glasses alone failed	328

MAR 11 1912

81509

Carnegie foundation, A suggestion to the	166
Carsickness (note)	58
Catgut ball a substitute for simple enucleation. BURTON HASELTINE	271
Cataract extraction (absts.)	28, 149, 224
Cauterizing iris prolapse (note)	32
Cerebral lesions a cause of eye symptoms. R. I. LLOYD	245
Cerevisine for black eye and ocular therapeutics (abst.)	204
CLAPP, A. B., Treatment of trachoma	100
Closed ethmoiditis G. A. DENMAN	115
Cocain (abstr.)	66
Cocain antagonized by ether (note)	172
Cocain, and atropin, idiosyncrasy (note)	34
COPELAND, ROYAL S., Blood pressure as a factor in eye diseases	370
Common public drinking cups (note)	222
Corrections	38, 196, 270
CREBBIN, JOHN T., Frontal sinusitis	123
Cubic air space (notes)	181
DANFORTH, L. L., A case of middle ear infection	446
Deformities of the nasal septum. IRVING TOWNSEND	10
DENMAN, GEO. A., Closed ethmoiditis	115
Diabetes, Soy bean a food for (abst.)	202
Diphtheria antitoxin, bad effects (abst.)	207
Disinfection before operations (abst.)	32
Dyschromatopsia, Diagnostic value of (abst.)	399
Edema of the uvula. T. J. SHEARER	203
Editorials: Volume Seventeen, 1; Surgical Fees, 37; The Venereal Peril, 69; Doctor of Ophthalmology, 113; Turbinals or Turbinates, 153; Quarantine Influenza, 195; Report Infectious Venereal Cases, 195; This Early Issue, 227; A Vest Pocket Perimeter, 227; Our Book Reviews, 269; The Secret Division of Fees, 357; Cataract Operations, 405; New Department, Homœopathic Materia and Therapeutics,	441
Ehrlich's 606 in ophthalmology (absts.)	65, 103
Electric ophthalmoscope. E. J. BISSELL	257
Enucleation and its substitutes. A. E. IBERSHOFF	237
Ethmoidal labyrinth, Histopathology of. A. W. PALMER	321
Ethmoiditis. IRVING TOWNSEND	313
Eye lost by blowing the nose (note)	9
Eyestrain and the general health. FRED. D. LEWIS	208
Eye symptoms in nervous diseases (abst.)	66
Fat implantation—a case. A. E. IBERSHOFF	277
Fat implantation for ocular prosthesis (abst.)	32
Fibrolysin for vitreous hæmorrhages (note)	54
Flexner report (note)	166
Frontal sinusitis. J. T. CREBBIN	123
Furuncle of external auditory canal (note)	256
GARRISON, JOHN B., Best treatment for hypertropiaed tonsils	51

GEORGE, EDGAR J., <i>Lycopus virg.</i> , a remedy for exopthalmic goiter	94
Operations on the lateral eye muscles for strabismus	293
Glaucoma (notes)	29, 33, 34
Goiter, Exopthalmic (absts.)	50, 92
Goiter, <i>Lycopus v.</i> a remedy for. E. J. GEORGE	94
Grave's disease (abst.)	50, 92
Hæmophilia and death after tonsillectomy. H. S. WILLARD	47
Hæmoptysis (note)	399
HALLETT, G. DEWAYNE, A case of bleeding into anterior chamber in a de- generated eye, Positive galvanism	97
Complicated chronic mastoiditis—a case	255
HANSEN, A. S., The specialist and the internal remedy	54
HASELTINE, BURTON, Presidential address, 230; Biographical sketch, 4; Cat- gut substitute for enucleation	271
Hay fever (note)	278
HAYWOOD, GEO. M., Submucous resection of the septum	15
Hints for speakers (note)	256
Holth's iridencleisis antiglaucomatosa (abst.)	31
HOMAN, R. W., Muscular asthenopia	82
Homœopathic materia medica and therapeutics—editorial, 441; department, 441	
Hypodermatic solutions, Sterilization of (abst.)	396
IBERSHOFF, A. E., Enucleation and its substitutes, 237; Fat implantation— a case	237
Immature cataract extraction—preliminary capsulotomy. HOMER E. SMITH (abst.)	262
Immediate removal of an injured eye (note)	354
Infection by the mouth (note)	278
Intermittent word blindness (abst.)	363
Intubation in the dorsal position. E. R. BEDFORD	165
Iodine, External uses of (abst.)	99
Iodine skin disinfection (abst.)	32
Iridodialysis which disappeared (abst.)	329
Ivy poisoning (note)	256
JOHNSON, H. WARREN, The pharyngeal lymphoid masses a survival factor in the evolution of man	427
JONES, ROBERT MORTIMER, Diagnosis of tubercular laryngitis	44
Jugular bulb (notes)	63, 64
KANSTOROOM, D. S., Trachoma a sequel of malaria	173
Keratitis, Complications of interstitial. F. O. NAGLE	456
Komar for pharyngitis (note)	411
Knapp, Herman, Obituary of. ALEXANDER DUANE	378
Labyrinthine complications of otorrhea (abst.)	63
Labyrinthine fistula—a case. G. W. MACKENZIE	136
LAIDLAW, GEORGE F., Blood pressure from the standpoint of the physiologist and pathologist	361
Laryngeal tuberculosis (abst.), 244; Diagnosis, R. M. JONES	44

Larynx, Fracture of (note)	54
LEWIS, FRED. D., Tonsillotomy or tonsillectomy? 167; Eye strain and the general health	208
Lingual tonsil a cause of cough. C. E. PAINE	212
LLOYD, RALPH I., Cerebral lesions a cause of eye symptoms, 245; its discus- sion	433
Lycopus virg., a remedy for exophthalmic goiter. E. J. GEORGE	94
Lymphoid cells (abst.)	151
Lymphoid masses in the pharynx as a survival factor in man's evolution. H. WARREN JOHNSON	427
MACKENZIE, GEO. W., Labyrinthine fistula—a case	136
MCDOWELL, GEORGE W., Typical and atypical mastoiditis	249
Malignant throat tumors (note)	46
Mastoid edema (note)	222
Mastoid healing (note)	399
Mastoiditis, Typical and atypical. G. W. MCDOWELL	249
Mastoiditis, Chronic, and complications—a case. G. DEWAYNE HALLETT ..	255
Mastoid operation, Radical (note)	222
Menthol, Disadvantage of (note)	259
Middle ear infection, A case of. L. L. DANFORTH	446
Miner's nystagmus (note)	34
MOFFAT, JOHN L., Etiology of strabismus, 241; The silver salts in ophthalmic practice	451
Muscular asthenopia. R. W. HOMAN	82
NAGLE, FRANK O., Complications of interstitial keratitis, 456; Histopathology of the optic nerve	462
Nasal hæmorrhage (abst.)	148
Nasal obstruction (note)	46
Nasal sinusitis—clinical observations. A. W. PALMER	407
Nasal treatment (abst.)	147
New advancement operations. F. G. RITCHIE	155
New test of one side deafness (note)	46
N. Y. State Board of Medical Examiners	261
N. Y. State vital statistics (note)	398
Nonoperative treatment of accessory nasal sinuses. E. D. BROOKS	131
Nonoperative treatment of strabismus. G. A. SHEPARD	279
Obstacle to therapeutic progress (abst.)	399
Ocular immunization (abst.)	29
Olive oil (note)	176
O. M. P. treated with bacterial vaccines (abst.)	353
Operations on the lateral eye muscles for strabismus. G. A. SUFFA, 284; E. J. GEORGE	293
Ophthalmodiaphanoscope, The (abst.)	377
Optic nerve, Histopathology of the. F. O. NAGLE	462
Optic neuritis (note), 46; following "606" (abst.)	103
Osteoma of the accessory sinuses (abst.)	31

Oxygen in sea water (note)	172
Ozena (abst.)	353
Pain at bridge of nose (note)	398
PAINE, CHAS. E., Lingual tonsil a cause of cough	212
Painless insertion of hypodermic needle (note)	224
PALEN, GILBERT J., A case of pulsating exophthalmos	197
PALMER, A. WORRALL, Histopathology of the ethmoidal labyrinth, 321; Clinical observations on nasal sinusitis	407
Palpebral fissure, The (note)	224
Partial tenotomy (abst.)	135
Perimeter, A vest pocket (editorial)	227
Peritonsillar abscess (note)	399
Phlyctenular conjunctivitis (note)	176
Phlyctenular keratitis, Chronic (note)	176
Phlyctenular ophthalmia from a homœopathic standpoint. J. A. CAMPBELL	206
Picric acid an antiseptic (abst.)	223
Preliminary capsulotomy for immature cataract extraction. HOMER E. SMITH (abst.)	262
Psorinum. PHILIP RICE	443
Pulsating exophthalmos—a case. G. J. PALEN	197
Punctum, Modification of scissors operation on lower (abst.)	33
Radium (note)	34
REED, R. G., The specialist and homœopathy	5
Reports required to N. Y. State Commission of Labor	398
Resorcin for chronic conjunctivitis (note)	172
RICE, GEORGE B., Submucous resection of the septum	20
RICE, PHILIP, Psorinum	443
RITCHIE, FREDERICK G., Two new advancement operations,	155
Roentgen ray (abst.), 107; dermatitis (note)	58
Roentgen ray flash treatment. E. D. BROOKS, 412; E. H. LINNELL, 416; (abst.)	108
Roentgen ray localization in the eye (note)	354
Sarcoma of the larynx. C. E. TEETS	39
SCHENCK, HERBERT DANA, Atropin locally as a therapeutic agent, 72; Senega in paralysis of the superior rectus	170
School house lighting. DANIEL W. WEAVER	177
Secret division of fees (editorial)	357
Senega in paralysis of the superior rectus. H. D. SCHENCK	170
Septic factor—blood count (note)	58
SHEARER, THOMAS J., Edema of the uvula	203
SHEPARD, GEORGE A., Nonoperative treatment of strabismus	279
Silver salts, The, in ophthalmic practice. JOHN L. MOFFAT	451
SLOAT, HARRISON G., The sphygmomanometer	364
Smith's cataract operation (abst.)	149
SOCIETIES: Am. Hom. O., O. & L. Soc., 35, 105, 182, 216, 433, 473; Proceed- ings, 330; Abstracts of papers, 186, 217, 244; Am. Institute of Hom.,	

officers and committees, 434; A. M. A., Eye, Ear and Throat sections, Los Angeles, 302, 383; Erie Co. Med. Soc., resolutions by, 395; 3d International Hom. Congress, 59, 105; N. Y. Hom. Med. College and Flower Hosp. Alumni Association, 261; N. Y. State Hom. Med. Soc., 193, 394; Southern Hom. Med. Assn., 62, 221, 395, 474.	
Sore throat (note)	399
Soy bean for diabetes mellitus (note)	202
Specialist, The, and homœopathy. R. G. REED	5
Specialist, The, and the internal remedy. A. S. HANSEN	54
Speech deafness (note)	224
Sphygmomanometer, The. H. G. SLOAT	364
Squint (note)	14
Squint operations on the lateral eye muscles. G. A. SUFFA	284
Standardize midwives—resolution by Erie Co. Soc.,	395
Sterilization of hypodermic solutions (abst.)	396
Stevenson-Simpson nasal tampon (abst.)	148
Strabismus, Etiology of. JOHN L. MOFFAT	241
Submucous resection of the nasal septum. GEO. M. HAYWOOD, 15; GEO. B. RICE	20
SUFFA, G. A., Operations on the lateral eye muscles for strabismus	284
Symposium—Deflected septum operation in the young	260
TEETS, CHARLES E., A case of sarcoma of the larynx	39
TENNEY, ALONZO C., The relation between blood pressure and diseases of the throat	367
Thrombosis of jugular bulb (abst.)	64
Tonsil hypertrophies, Treatment for. J. B. GARRISON	51
Tonsillotomy or tonsillectomy? F. D. LEWIS	167
Tonsils and adenoids (abst.), 107; (note)	147
TOWNSEND, IRVING Deformities of the septum, 10; Ethmoiditis	313
Trachoma a sequel of malaria. D. S. KANSTOROOM	173
Trachoma bodies, New stain for (abst.)	31
Trachoma treatment. A. B. CLAPP	100
Transilluminator, A pocket (abst.)	438
Tubercular laryngitis, Diagnosis of. R. M. JONES	44
Tuberculin (notes)	46
Tuberculosis of the eye (abst.)	438
Turbinals or turbinates (editorial)	153
Typhoid fever (note)	58
Venereal cases, Report infectious (editorial)	195
Venereal peril, The (editorial)	69
Vision, Development of (abst.)	108
Visual perception (abstract)	25
Vitreous hæmorrhage, Fibrolysin in (note)	54
WEAVER, DANIEL WITWER, School house lighting	177
When glasses alone failed. J. A. CAMPBELL	329
WILLARD, H. S., Hemaphilia causing death after tonsillectomy	47



BURTON HASELTINE, M. D.
President, 1910-1911, of the American Homœopathic
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EDITORIAL.

VOLUME SEVENTEEN.

TWENTY-ONE years ago the late Dr. George S. Norton, surgeon and professor in the New York Ophthalmic Hospital and its College, started THE JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY AND LARYNGOLOGY as a quarterly whose editorial chair was filled, upon his death, by his colleague Dr. Charles Deady. From 1901 to 1904, inclusive, the editorial mantle fell upon the shoulders of Drs. Moffat and Palmer, who made the journal a bimonthly and, without lowering its standard, made it less—shall we say “pedantic?” In the latter year the owners of the journal decided to cease publication rather than continue losing money, and the HOMŒOPATHIC EYE, EAR AND THROAT JOURNAL, was purchased and conducted, as a monthly, by Drs. Moffat and Palmer, who have now acquired the rights of the older journal and are merging the two under the prior title which is hallowed by memories of its honored founder.

The latter wrote, for number one, volume one, in January, 1889:

“Twenty years ago no man could have been found so bold as to predict that the sciences of ophthalmology, otology and laryngology would in the coming years produce results so important, or be marked by discoveries so brilliant, as those which had characterized the preceding two decades.” “It hardly seems possible that the future can yield so brilliant results as have distinguished the past.”

“There are many, perhaps too many, journals devoted to the eye, ear and throat, but among the whole number there is not one in which an article treating of homœopathic therapeutics can be admitted.”

“The editors, tho earnestly believing in the law of similars as a law of cure, most fully recognize the fact that affections of the special

organs are more often only amenable to surgical or mechanical interference than to medicinal measures. The columns of this journal will therefore not be circumscribed by the limits of any particular creed, but will be open to scientific investigators of any school of medicine who may desire to contribute to its pages. The only restriction will be that the paper shall be of practical or theoretical value upon the special topics, and that the author shall hold himself responsible for all his utterances."

In January, 1895, appeared *THE HOMŒOPATHIC EYE, EAR AND THROAT JOURNAL*, a monthly appealing more to the general practitioner, under the editorship of Drs. A. B. Norton, Charles E. Helfrich and John B. Garrison with the following list of collaborators: Henry C. Houghton, M. D., James A. Campbell, M. D., George C. McDermott, M. D., J. R. Buffum, M. D., Hayes C. French, M. D., D. A. MacLachlan, M. D., E. J. Bissell, M. D., Henry C. Angell, M. D., Charles M. Thomas, M. D., Howard P. Bellows, M. D., F. Park Lewis, M. D., Wesley A. Dunn, M. D., E. H. Linnell, M. D., and William R. King, M. D. In its "introduction" (there were no editorials) we read:

"It is our aim, therefore, to present each month short, concise articles on the eye, ear, nose and throat of practical importance to the general practitioner who, we believe, will welcome them gladly as filling a long felt want. At the same time, with a list of collaborators comprising many of the leading specialists of our school, we shall from time to time present articles more distinctly technical in their nature which we trust will prove both of interest and value to the specialist."

The above extracts stand for our present platform; we will continue the good features of both journals and continue to add new ones, with the determination to make the journal better each year. The opening sentences of the 1889 editorial were quoted merely to emphasize one marked difference between the twentieth and the nineteenth centuries; we have learned by experience that each decade may surpass its predecessor in the brilliancy of its achievements and there now are prophets who anticipate to some extent the line of our future attainments.

The sympathy of the following collaborators in its aims and management speaks for the continued success of the Journal: Drs. Howard P. Bellows, Boston, Mass.; E. J. Bissell, Rochester, N. Y.; James A.

Campbell, St. Louis, Mo.; Royal S. Copeland, New York; John T. Crebbin, New Orleans, La.; C. Gurnee Fellows, Chicago; Edgar J. George, Chicago; G. DeWayne Hallett, New York; Burton Haseltine, Chicago; A. E. Ibershoff, Cleveland, O.; F. B. Kellogg, Los Angeles, Cal.; W. R. King, Washington, D. C.; E. H. Linnell, Norwich, Conn.; G. W. Mackenzie, Philadelphia; D. A. MacLachlan, Detroit, Mich.; J. R. McCleary, Cincinnati, O.; George W. McDowell, New York; George B. Rice, Boston, Mass.; Thomas L. Shearer, Baltimore, Md.; D. A. Strickler, Denver, Col.; Dudley D'A. Wright, F. R. C. S., London, Eng., and D. Parenteau, M. D., Paris, France.

The coming volume will be the direct successor of volume sixteen of each of the journals which are now merged. Fortunately the Journal of Ophthalmology, Otology and Laryngology has proved to be "not dead, but sleeping." The Homœopathic Eye, Ear and Throat Journal is not killed but married; six years is no serious discrepancy in age between bride and groom.

BURTON HASELTINE, M. D.

THE president of the American Homœopathic Ophthalmological, Otological and Laryngological Society was born in the autumn of 1874 at a small town in Wisconsin whence his parents soon moved to Missouri. In 1890 he obtained a high school diploma at Cochranon, Pennsylvania, following which he went to Allegheny College in Meadville, the same state.

After a brief business career he entered the Cleveland University of Medicine, but received his degree in medicine from the Hahnemann Medical College of Chicago in 1896.

Locating in that city he has been connected with the Hahnemann Medical College and Hospital and with the editorial staff of the *Clinique*. Joining the local and state societies, the American Institute of Homœopathy and the American Homœopathic Ophthalmological, Otological and Laryngological Society his energy and executive ability have served the cause of homœopathy and of medicine to great advantage. For several years he has been the most efficient secretary of the Illinois Homœopathic Medical Society, and his election to the presidency of the American Homœopathic Ophthalmological, Otological and Laryngological Society promises an excellent administration of this national office.

THE SPECIALIST AND HOMŒOPATHY.

R. G. REED, M. D.,

Cincinnati, O.

IT is not my purpose in presenting this subject to this society to revolutionize the present order of things nor to present any new ideas in regard to special practice, but to elicit, if possible, a discussion in which we as a profession may reach a better understanding among ourselves of certain duties arising from our relation to our patients and general practitioners.

When conferring the degree of Eye and Ear Surgeon, in 1895, the late Dr. Timothy F. Allen, of the New York Ophthalmic, reminded the students upon whom he conferred the degree that their relation to the general practitioner was very definite; that their field of operation was one in which they would not interfere with the general practitioner, but on account of their advanced study of the detail of their chosen specialty they were to be an advantage and not a detriment to him; in turn, the general practitioner should not interfere with the specialist in his field of practice.

This may be very easy to state, as a theory, but every one of us realizes how frequently the fields of the general practitioner and of the specialist seem to overlap. This may give rise to confusion in treatment, which is often augmented by the actions of the patient. Some patients seem to act upon the old suggestion that if a little is good more is better, and if they are so fortunate as to possess sufficient wealth we frequently find after having treated a case for a longer or shorter length of time that our patient has been at the same time under the care of various specialists in different lines. It is very difficult for the patient to realize that it is the doctor's business to treat the patient instead of some particular organ or the name of some disease.

There are times when the general practitioner needs the aid of the specialist while he is yet treating a case, in order to relieve his mind as to the condition of some special organ, such as the eye or ear, which he does not feel competent to pass judgment upon. Or, a patient may need to consult a specialist while under the care of his family physi-

cian for correction of the refraction or for some mechanical trouble with the ear; for instance, foreign bodies in the external canal, etc.

So far as the specialist is concerned these cases are easy. His mind is at rest, for in a case like either of the above his duty is plain, which is to do the mechanical work independent of any other physician and dismiss the case. No rule of ethics has been violated by either the specialist or the patient.

Not so with every case that presents himself, either on his own account or at the request of his physician, for the specialist may find in the course of his examination that a disease exists which, in order to do justice to the patient, must receive treatment. Shall this treatment be administered by the specialist, or shall he refer the case back to the family physician who knew nothing of the existence or nature of the disease prior to examination by the specialist? Suppose at the same time the case is suffering from severe stomach or intestinal derangement, or any other disorder that comes under the head of "general disorders." If the specialist is a homœopath, believing in the law of similars and the single remedy, under the code of ethics upon whom should selection of the said single remedy devolve?

This may seem to be straining at a point in ethics; but I think every one has had to meet this question and decide for himself, whether satisfactory or not. I have had patients consult me with reference to their eyes and ears, who at time of consultation were found to be under the care and taking treatment from two and three specialists in diseases of other organs. The question arises in such a case as this, as to the duty of the last one consulted: Should he take such a case as this? Should he even accept the responsibility in a case where the patient is under the care of brother homœopaths or brother allopaths? What opportunity for benefit would the patient have from such therapeutic measures?

Again, it is always the duty of the specialist to uphold as far as possible his professional brethren, and "stand by the family." Suppose a case—which you will agree with me, is not entirely imaginary: A patient presents himself to his family physician for relief. The family physician finds that he is suffering from some disease of the eye, ear, nose or throat. He positively informs the patient that an operation is necessary and refers the patient to a specialist for said operation. Without consulting the judgment of the specialist, the case is presented to him with positive instructions to have a certain

operation performed, as tho the specialist was a mechanic whose duty it is to carry out instructions of others, when sometimes his judgment may tell him that best results may be obtained without the aid of surgery. Whose judgment should be given preference in a case like this? If the specialist is to be considered by his professional brethren as simply an expert mechanic, what is the use of all this study and work and following out of detail that requires more time than the family physician can afford to give?

I have no doubt that all have had experience with such cases while they were under their professional care. Their treatment has been interfered with many times by unnecessary prescriptions from the family physician, without the least consideration for the remedy selected by them.

We, as a society, are interested in bringing our professional work up to the highest standard of efficiency. While many difficulties arise that can only be settled by the individual physician, there are some principles or rules of action which are more or less general in their nature, and a more careful observation of which by the profession would certainly be an aid in this direction.

In this day of specialties there are many people who have no definite idea in their minds as to what a specialist really is and what relation he bears to general medicine. I have met many otherwise intelligent people who expressed surprise on learning that I am a physician as well as an oculist and aurist. I have no doubt that many of those present have felt more or less humiliation at times in finding that they have been classed in the minds of their patients along with the optician, chiropodist, beauty doctor, osteopath and advertising specialist. Nor is this to be wondered at when we realize that many general practitioners are as ready to refer patients to the optician as to the oculist. I know from experience, that many members of the general profession do not appreciate the work of the specialist, outside of purely surgical operations. The question arises as to whether or not we as specialists have done our duty toward the general profession. It is a well known fact that in our state and local societies the announcement of a paper to be read by a specialist is followed by a general apathy and lack of interest on the part of the members. No matter how instructive the paper may be to the general practitioner, nor what its bearing on general work, it is passed over as tho it were beneath his consideration or beyond his comprehension, either of which leads to the same result.

My object in rehearsing these various contingencies is merely to emphasize the fact known to all that so long as a specialist confines himself to local appliances and mechanical work he receives at least the toleration of his professional brethren (speaking of the profession in general), but if he enters the field of therapeutics he is in danger of interfering with and receiving the criticism of the general practitioner.

I know there are able prescribers who practice a specialty, and while I know this field is limited and that it does not embrace perhaps a very large part of the duties of the specialist, yet I fear it is in danger of being neglected on account of unpleasant entanglements to which its cultivation might lead.

Should not a specialist first of all be a physician in a true sense of the word? Should he not be a competent diagnostician and therapist as well as a specialist? Would it not save many an embarrassing situation if, when a patient presents himself to a specialist for some eye trouble, that the doctor be able to diagnose a general nervous disorder or the probable beginning of a fever, such as typhoid, instead of considering the trouble due entirely to the eyes, and having to wake up to the facts in the case a little later on?

Again, should we not treat our patients, as true homœopaths, by treating the disease as it manifests itself in the individual, rather than confining ourselves strictly to the local manifestation of disease in any one organ? Would not a more careful study and application of our *materia medica* to diseased conditions lead to fewer operations and better final results in many of our cases? The public for many years has been educated to believe in surgery until at the present time it seeks surgical measures for the cure of almost all kinds of disease. This shows simply to what extent the public mind may be influenced by the attitude of the profession. It is of little or no difficulty to convince the average patient of the necessity of an operation and readily gain his consent and hearty co-operation.

This is not intended as a criticism of surgical methods, which have been brought to a high degree of efficiency, but in order to contrast these with the state of therapeutics at the present time which is looked upon with doubt by all classes, even including members of the medical profession. As this doubt increases our patients slip from us into different cults, sciences and isms with which we are surrounded at the present time, while fake remedies and druggists' prescriptions take the

place of those administered by members of a learned profession. Does it not become us to take notice of the trend of opinion and by a campaign of education elevate therapeutic measures to the level reached by surgical measures at the present time and, by cultivating a better understanding among ourselves, work together in greater harmony in the future than in the past?

Provident Building.

Loss of An Eye From Blowing the Nose Roughly.—(*Ann. d'Oculistiques*, Mars, 1910.) A healthy man, aged 22, suddenly lost the sight of his right eye after prolonged and violent blowing of the nose. When first seen, 24 hours after the loss of sight, he had no perception of light and the fundus presented an appearance resembling that seen in embolism of the central artery of the retina, except that the arteries were only narrowed instead of filiform. There was also a small hæmorrhage on the disc. Two days later he could count fingers at 22 cm., but had a central scotoma and contraction of the upper part of the field to 25°. In six weeks, the edema had cleared off, leaving a slight veil through which the choroid was seen, but the disc was paler than formerly; the scotoma had gone but the vision was only 1/10, and the contraction in the upper field still remained.

Tacke suggests that this was a case in which there was a sphenoidal sinus separated from the optic foramen by a thin wall only which yielded to the pressure from the forcible blowing of the nose, causing a bruising of the optic nerve with hæmorrhage from some of the fine vessels in its interior, and complete blindness from compression, which cleared off when filtration of the blood in the fibrillar interstitial tissue took place, leaving a defect in the upper part of the field owing to collection of the blood in the lower part of the nerve. The central vision did not return until later because the central or macular fibers were the most affected, and the permanent diminution of vision was due to pathological changes.

DEFORMITIES OF THE NASAL SEPTUM.

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New York.

IN considering deformities of the nasal septum, it is necessary to include the various forms of asymmetrical development of the bones at the base of the skull and the upper jaw.

Septal deviations, while far less common in young children and in the people of primitive races, are by no means of rare occurrence, being present according to the observation of various writers in from five to twenty per cent. of cases, while in adult life the percentage is stated to be from fifty to ninety. If we include minor degrees of deviation I am satisfied that the maximum figures are more nearly correct. As a preliminary to the further discussion of this subject let us consider for a moment the anatomy of the nasal septum and the development of its essential parts.

The nasal septum or partition dividing the nasal cavity into two passages, which under ordinary circumstances are of approximately equal dimensions, is composed of the following structures: The anterior third or the cartilaginous portion fills in the angular interval between the vertical plate of the ethmoid bone and the vomer. It is quadrilateral in form. Its posterior superior border is in contact with the vertical plate of the ethmoid bone, which is sometimes grooved to receive it. Its posterior inferior border joins the anterior nasal spine of the superior maxilla and the vomer which may be grooved for its reception. The upper portion of its anterior superior border is attached to the crest on the under surface of the junction of the nasal bones and below the nasal bones the sides of this border are continuous with the superior lateral cartilages; it terminates just above the tip of the nose between the inner plates of the two inferior lateral cartilages. The anterior inferior border is short and extends backward and downward above the columna to the anterior nasal spine which it embraces. The bony portion of the septum is formed by the crest at the junction of the nasal bones, the nasal spine of the frontal bone, the vertical plate of the ethmoid bone, the vomer, the crest of the sphenoid bone, and by the crest situated at the line of junction of the two palatal

processes of the superior maxillæ and of the two horizontal plates of the palate bones. (Deaver.)

In early life, the vomer is composed of two parallel laminæ which become blended about puberty, sometimes remaining only partly adherent or even in extreme cases existing as separate plates—the so-called double septa. It is reasonable to believe that many cases of congenital deformity of the bony septum result from either overgrowth or arrested development of one or both of these laminæ of the vomer. The exposed position of the nose and the soft nonresistant character of the septal cartilage render it peculiarly liable to injury either from pressure in utero or during delivery and subsequently from the falls incidental to infancy and early childhood.

Concerning the resistance of the septum, it should be borne in mind that the anterior third remains cartilaginous thru life, and for this reason yields rapidly to pressure. The upper third of the septum, the vertical plate of the ethmoid ossifies between the first and second year after birth, whereas the vomer begins to ossify in the third month of foetal life, this process being completed only about puberty.

While many factors enter into etiology of septal deformity, they may be grouped under the general headings:

Congenital.

Developmental and

Traumatic, and even then the distinction is often not very clear cut or readily determinable.

To illustrate: The highly placed palatal processes of the superior maxillæ giving rise to the so-called "Gothic arch" is congenital, but the bending of the septum resulting from this is developmental and in a large degree preventable. In the same way slight injuries which cause very little if any displacement of the septum often imitate a subacute inflammation of the perichondrium or periosteum resulting in hyperplastic changes and a gradual deflection of the septum in the direction of the least resistance. In other cases the deformity caused in this way may result only in the production of spurs and ridges along the lines of articulation; those located at the junction of the triangular cartilage and the vomer being chiefly cartilaginous, while those along the base of the cartilage are more apt to become hard bone. It is evident that extreme unilateral hypertrophy of the turbinates in children may produce a corresponding curvature in the still flexible septum, tho ordinarily the relation of cause and effect is reversed. Among

congenital influences, family and racial characteristics must not be overlooked.

The high palatal arch above referred to must be regarded as an arrest of development, as in foetal life the floor of the nose is about on a level with the orifices of the Eustachian tube and gradually descends in the process of normal growth.

The illogical conclusion has sometimes been drawn that because in many cases of septal deformity observed in childhood there was no history of injury, such cases were of necessity the result of congenital causes alone. When we consider that these injuries may be the result of a large number of apparently slight falls in infancy, when such accidents are of common and perhaps an almost daily occurrence among children who are learning to walk, and frequently without the supervision of an intelligent mother or nurse, it is not strange that no history of traumatism is obtainable. As a matter of fact, it is quite possible for a serious injury to the septum to occur without any very marked external evidence of contusion, ecchymosis or deformity. Now when the nurse or person nominally in charge of an infant allows it to fall, there are the strongest reasons to conceal the fact from the parents, and there is only the smallest chance of the latter learning of it unless the bruises are apparent or the child appears to be ill. Many of these injuries are analogous to the so-called green stick fractures in the long bones, and are little more than a bending of the septum to one side or the other. The old axiom, "as the twig is bent so is the tree inclined," is as true in this relation as in its original application, and it is my contention that the great majority of these deformities are developmental or due to injuries rather than resulting from hereditary influences alone.

If this view be correct, there remains a great deal for us to do in the line of prevention in correcting abnormal conditions in the earliest stages. It may be necessary to invoke the aid of the orthodontist in spreading the superior maxillæ and lowering the palatal arch, thereby providing sufficient space for the growing septum; it may be in the way of more careful attention to the apparently trivial injuries to the nose in childhood, or in educating our patients and the public at large to the importance of these things. It must be admitted that when we consider some of the difficult tasks that have in the past been left to nature, that she is "wondrous kind," but it is well to bear in mind her limitations.

While a definite classification of the various forms of septal deformity is quite impossible, a comparison of the atypical forms affords us a basis for generalization from which may be deduced certain principles which are of considerable value in determining the mode of treatment in a particular case. In general we speak of horizontal; vertical and sigmoid deviations. In the first the long axis of the deformity is anteroposterior; in the second it is at or near a right angle to the floor of the nose, and in the last the septum bulges into one nostril above and to the opposite side at its lower part, thus assuming the sigmoid or S shape. Having in view the mode of production and origin rather than that of graphic description, we will follow the German classification, viz.:

Vesicular or bulliform refers to deviations having rounded surfaces which it is fair to assume are of gradual formation and the result of developmental causes rather than to traumatism, altho slight injury may have been a factor at the beginning. These deviations may involve the cartilage alone and present a sweeping curve in one direction or the other, or may include the bony septum as well. The sigmoid form belongs to this class, the deviation assuming the characteristic S shape either in its horizontal or vertical aspect.

Angular deviation as the word implies refers to that large variety of deformities in which the surface presents definite angular prominences in one or several directions frequently associated with corresponding angular depressions on the opposite side of the septum. These deviations are obviously due to traumatism, and, as a rule, to a rather severe fall or blow sufficient to produce an immediate solution of continuity in the structure of the septum; they may vary all the way from a slight deviation of the cartilage to a series of deflections or dislocations of the bone and cartilage at different angles more or less thickened and having irregular protuberances commonly described as crests and spines, or ridges and spurs. In some cases the bowing of the cartilage is gradual and symmetrical. In others there is an angular depression on one side with a corresponding sharp eminence on the other, as if the septum had been compressed or "crumpled," to use the expression of Lenox Browne.

In the majority of cases the bony septum as well as the cartilage participates in the deflection, altho in many of these the bony deformity is not sufficiently marked to require operative interference. A fact worthy of note is this, that the posterior margin of the vomer is

almost invariably straight, even in cases where the anterior part of the septum is badly distorted.

Associated with these deflections more or less enlargement of the inferior or middle turbinates on the side of the concavity exists as the result of nature's effort to equalize the caliber of the air passages; the hypertrophy in this case being the result and not the cause of the deviation.

Whether the different forms owe their origin to traumatism or to some other anomalous irregularity of growth, their mode of formation is governed in nearly all cases by the same physical law which applies to the stick bent on itself in its longitudinal axis. There is a transition of the various forms of deviation from the simple scoliosis without a groove into those with shallow grooves and those with marked depressions, or on the other hand into solid tumor-like spines and crests, and taking place very gradually. Several forms of deviation may be observed in the same septum, depending on the direction of the observation.

Zukerkandl maintains that posterior growths of cartilage come from the unossified strips located in the upper groove of the vomer, which escape ossification in foetal life and as the bone develops are "squeezed out" at the sides, as it were, forming crests and spines.

(Five plates were exhibited from Krug's "Atlas der Nasenkrankheiten" showing in a pictorial way the great variety of deformities of the septum, the necessity of an exact knowledge of the anatomy of the part and its structural development, as well as their clinical peculiarities. It is only in this way that we may be able to make an accurate diagnosis and determine the method of operation best suited to the individual case.)

55 East 55th Street.

Cure of Squint in the Adult by Amblyoscope Exercises.—(*Arch. f. Ophth.*, Vol. LXXIV, Festschrift.) A 16-year-old girl; convergent strabismus not noticed until the tenth year. Six years later diplopia set in. The patient fixed with the left eye. Vision o. d. = 5/15, o. s. = 5/10. Vision could not be improved with correcting lenses and the glasses were discarded after one week's trial. By means of exercises with Worth's amblyoscope during a period of over two years, the squint finally disappeared and single vision was secured.

SUBMUCOUS RESECTION OF THE NASAL SEPTUM.

GEO. M. HAYWOOD, M. D.,

Minneapolis, Minn.

THE description of the operation for submucous resection of the nasal septum was first published in this country by Dr. Otto Freer, of Chicago, in 1902, in the *Journal of the American Medical Association*. He has contributed, as have many others, papers to various medical journals since that time with descriptions and illustrations of the various instruments and the technique of the various stages of the operation.

Having read many of these I at first thought I would never attempt the operation on account of the difficulty, delicacy and skill required; but finding two or three of the old school specialists here were doing the operation I decided not to be behind the times, so preparing myself with the necessary instruments and reading up thoroly on the technique of the operation awaited the coming of a suitable case. I soon had a case, and having the Freer instruments and preferring his method tried to follow his description of the operation.

Having had a number of operations which have proved successful and satisfactory to my patients and myself, I concluded to write a paper on the subject, as I much prefer the submucous resection for deflected septum to any of the older methods, such as that of Ashe, where the cartilaginous and bony septum is crushed and the attempt made to hold it into place by hollow splints, or that of Bosworth where the spur or spine is sawed off, and the other operations where a large loss of mucous membrane is inevitable or necessary in order to remove the deflection.

This operation is performed for the purpose of allowing free and normal respiration thru the nostrils with all the comfort, health and satisfaction that implies. The chief feature of Freer's method of operation, which I have attempted to imitate with some exceptions, is the following:

After spraying the nose with any alkaline or saline solution for thoro cleaning, I give the patient per orem $\frac{1}{4}$ gr. morphin and $\frac{1}{150}$ atropin, which I have found very beneficial in quieting the fear and

nervousness of the patient as well as some of the pain. I then pack the nose with cotton saturated with adnephrine 1 to 1000, on both sides, which is removed at the end of ten minutes; the nose is again repacked with an 8 per cent. solution of alypin, a new local anesthetic which I have found as efficacious as cocain in its anesthetic qualities without its unpleasant systemic effects. This is left in ten or fifteen minutes when the septum is usually thoroly anesthetized.

Before beginning the operation it is necessary to prepare 50 to 100 cotton tipped tooth picks with which to absorb oozing blood, as a single drop of blood may hide the line where the perichondrium and periosteum are being detached. During the operation if hemorrhage is profuse enough to interfere with the proper observation of the parts it can be checked by rubbing in the wound pure powdered cocain in the shape of flake crystals. The rubbing of pure cocain into the mucosa or wound produces a much more rapid and intense local insensibility than can be obtained by any solution of cocain used in the same way. I have seen no ill effects as a result of using cocain in this way, due probably to its intense effect when used in pure form contracting the vessels so vigorously that its absorption is prevented much more than when it is applied in solution.

Two assistants are needed, one to hold the nostril open with retractors (unless the Gleason self retaining speculum is used, which I use for all examinations and operations on the nose). The second assistant is needed to absorb the oozing blood with the cotton covered tooth picks. After all these preliminaries are arranged I have the patient lie on the operating chair in a half reclining position; then with a good bull's eye condenser and a good head mirror (as all the light possible is needed) I watch every motion of the instruments used. The incisions in the mucous membrane differ in their place and form according to the variety of the deviation. The majority of deflections possess in some degree a vertical angle, bend or prominence, and the operation in this variety is begun by a vertical incision exactly along the summit of the vertical angle beginning as high up on the septum as the deflection reaches upward and descending upon it to the floor of the nostril. Joining this upright cut a second one is made at right angle to it, at the bottom of the septum, and following it forward along the nasal floor somewhat beyond the anterior limit of the deviation.

These two incisions outline a capital L reversed and looking for-

ward toward the external nostril. The first incision, with rare exceptions, should be made upon the convex side of the deflection because the coverings of the septum are usually more adherent upon that side than on that of the concavity. It is much more difficult to elevate the coverings of the convex side thru a cut in the cartilage made from the concave side and there is more danger of perforation. The bony portion of the resection is exceedingly difficult.

The incision in the mucous membrane is made with a half round knife, and the cut made deep enough to sever not only the mucous membrane but the underlying perichondrium (but not deep enough to go thru the cartilage) so that there will be no difficulty in lifting the mucous membrane and perichondrium with the elevator from the cartilage. The L shaped incision I prefer to the button hole one of Killian, Hajek or Ballenger because the incision in the cartilage can be seen after dissecting the mucosa of the convex surface, and that incision can be made in front of or back of the incision in the mucous membrane, so that if an incision of the mucous membrane of the opposite side should occur, there would not be the danger of a permanent perforation in the septum as there is when the cartilaginous and mucous membrane incisions coincide. Another advantage of the L shaped incision is that all the straight portion of the cartilage of the septum in front of the deflection can be left intact to help support the tip of the nose.

The L shaped incision also allows the operator to see all of his manipulations, on the convex side especially. After the incision has been made in the mucous membrane the elevation of the L shaped flap is reflected from behind forwards, the ala has to be retracted strongly backwards so that as much of the side of the septum as possible is exposed to view, the elevation is then done by gently scraping the perichondrium forward along the line of the vertical incision until it shows the white bare cartilage underneath, the separation is also carried on from below from the horizontal cut; after starting with the sharp planoconvex elevator the dull elevator is used behind the vertical incision and the separation is carried to the crest of the deflection.

To attempt to elevate below the ridge at this time would result in laceration or perforation of the mucous membrane. Having denuded the cartilage and vomer on the convex side above the ridge of the deflection the next step is the incision thru the cartilage and the elevation of the coverings from the concave side of the septum. The same knife

is used, which should be very sharp, and each cut should be carefully watched so there will be no perforation of the mucous membrane on the concave surface.

The separation of the perichondrium is begun with a little hoe shaped spatula which is introduced into the cartilaginous cut and made to uplift a strip of it from the cartilage by sliding it up and down with a pulling motion in the cut. The edge of the cartilage when freed is seized with a mouth toothed forceps and pulled outward, the detachment of the mucosa of the concave side being continued with the dull elevator.

The perichondrium is separated from the cartilage as easily as a piece of cloth is removed from a piece of cheese, except where there are sharp deflections or where it is adherent to the cartilage as a result of ulceration, injuries or cicatrices of previous operations. When the perichondrium has been thoroly separated from the septum on both sides the Forster or Beck nasal speculum is used to keep the separated surfaces from the cartilage, and Ballenger's swivel knife is then introduced and the cartilage removed *en masse* in a minute or two.

The direction of the cutting edge is controlled by the resistance of the cartilage or bone thru which it is passing. This is a clever device and saves much time and many instruments. After the cartilage has been denuded it will sometimes be found fractured at the deflection and will have to be carefully dissected out. After the cartilage is removed the difficult delicate and tedious part of the operation follows: that of removing the deflected portion of the bony septum. The perichondrium must be kept away from the septum with the Forster speculum then the Freer-Gruenwald forceps are introduced to cut away all the bony deflection including the superior maxillary crest, which is nearly always deflected.

These forceps are made right and left with a smoothly rounded end which can be pushed under the mucosa on the convex side in narrow places between the lower or middle turbinate and septum. The chisel or gouge may be needed at times to detach the anterior portion of the *crista* and vomer.

All the deflected portion must be cut away so that the mucous membrane and perichondrium will hang down on each side of the septum like a curtain; should there be an hypertrophied middle or lower turbinate which would prevent that it should be removed if possible before the resection of the septum is undertaken. After all the deflected

portions of both bone and cartilage are removed and the parts thoroly cleaned with 1 to 3000 bichloride I pack the nose with Bernay's compressed sponges first dipped in sterilified castor oil seven parts and one of Balsam of Peru; one or more of these are packed on each side of the septum to prevent bleeding and to hold the denuded surfaces together, these sponges swell as they become soaked with the blood or mucus and exert an even pressure.

The packing should be left in the concave side 24 to 48 hours when the outside portion can be removed leaving the balance in for a day or two longer to give the flaps time to unite by first intention. The packing should be removed from the former convex side on the second or third day, after which time the nose should be cleansed two or three times a day with a good alkaline or saline solution followed by a calendula oil spray. The convex side of the nose should be kept closed with cotton for a week or more to exclude the dust and keep the interior moist so that no scabs will form. This cleansing should be kept up for some time until no crusts form and the parts are restored to a normal condition.

Some may think the submucous operation an easy one, but my experience has proved it to be most difficult, tedious and delicate and the one requiring the most patience, skill and dextrous manipulation of any on the nose, throat, eye or ear, requiring from two to three hours for its successful performance; but if properly done it is one of the most satisfactory in results and in time required for after treatment, shortening the time at least one-half that required following an Ashe operation or one where the spur or spine is removed with a saw.

It is suitable to nearly all deflections of the septum, while other operations are suitable to but a selected few. This operation is suitable to children, and has been as beneficial to them as to adults. The danger of the nose dropping in or becoming saddle back is very small; the external frame work is not touched, and only in cases where the anterior portion of the cartilage is deflected is that removed. A fibrous membrane seems to take the place of the extirpated cartilage, the mucous membrane becoming healthy and the nose performs its normal functions as not before for years.

408 Donaldson Building.

THE SUBMUCOUS RESECTION OPERATION OF THE NASAL SEPTUM.

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THRU the efforts of Ingals, Kreig, Freer, Hajek, Yankauer, Ballenger and others the resection operation has in a remarkably short period of time become universally recognized as the method par excellence for the correction of nearly all forms of septal deformities. In this paper I do not propose to go over the history of the operation or to detail the methods of different authorities, but to simply give as briefly as possible the conclusion of my immediate associates and myself, and the methods we have adopted as seemingly the most satisfactory.

The Position of Patient and Operator.—As the operation is sometimes prolonged and fatiguing both to the patient and the operator it would seem to be essential that the patient be properly and comfortably supported and the operator be in such a position as to allow perfect inspection of the intranasal structures and at the same time have free unrestricted use of the arms and hands.

The first requirement is met by placing the patient in a half reclining position with the head well supported on a head rest, and the second by the operator standing in front and at the patient's right. I am sure that one needs but to try this arrangement to become an ardent advocate of it. The Allison chair, or any of the gynæcological, or dentist chairs, are admirably adapted for this purpose.

The Anesthetic.—The anesthetic used consists of equal parts of an 8 percent. cocain solution, 5 per cent. eucain solution and 1:1000 suprarenal alkaloid solution. When the primary incision is to be made anteriorly according to Hajek's plan, this solution is diluted with three parts sterile water and a few drops injected just anterior to the proposed cut.

My experience has led me to believe the Killian or the Yankauer incision to be preferable to the open method as advocated by Freer, and being ambidextrous I think I can operate more rapidly and securely by making the primary incision always on the convex side. In my

early work in those cases when it was necessary to expose fully the nasal septum I used Freer's open method, but since reading the article of Yankauer in the December, 1909, number of the *Annals of Otology, Rhinology and Laryngology*, I have adopted the incision described and have found it much safer and in every way more satisfactory.

After removal of the cartilage with the Ballenger swivel knife, and the deflected ethmoid with forceps, and when the crest is still obstructive, I have been enabled to remove as much bone as was necessary with the guarded submucous gouge as advised by Mosher of this city.

Dressings.—Various after dressings have been tried, and I am now using with much satisfaction strips of half inch gauze soaked in a mixture of sterile Balsam of Peru 1 part, and sterile castor oil 2 parts. This dressing is nonirritating, nonadhesive and is clean after remaining in the nose forty-eight hours. The strips can be put in accurately, building the support from the floor of the nose upward, and just the right pressure can be brought against the mucoperichondrial and periosteal flaps. I do not find it always necessary to support the concave side; this allows fair breathing space on the nonobstructed side, and adds materially to the comfort of the patient. If the membrane has been accidentally lacerated during the operation the dressing is replaced at the end of forty-eight hours and changed every day until the structures are healed.

In September, 1906, some of the members of this society criticised me rather severely for stating that I believed that the submucous resection operation was not adapted to all forms of septal deviation, and that there was danger of deformity and sepsis in some of the methods of procedure advocated by enthusiastic operators. In surgical work I have always tried to follow the rule laid down by Pope in literature:

“Be not the first by whom the new are tried,

Nor yet the last to lay the old aside.”

I have not yet altogether “laid the old aside,” and I am not by any manner of means the last to do so. I still believe that under certain circumstances better and in every way more satisfactory results can be obtained by resorting to the fracture operation.

For instance, in cases of extreme acute deflection when the convex side is deeply excoriated I believe the method suggested by Beaman Douglas is much to be preferred.

In cases where the vomer and maxillary ridge have been fractured

and displaced, with the whole septum resting on the nasal floor, I believe the sublabial operation of Harrison Allen to be the method best adapted to relieve the deformity. Then there are some patients who can much better bear a fracture operation under a general anesthetic than the at times tedious submucous procedure.

The experience of my immediate associates at the Massachusetts Homœopathic Hospital and a review of the recent literature on the subject prove that my contentions are well supported.

220 Clarendon Street.

DISCUSSION.

E. G. LINN: I do not regard any one especial position of the patient so necessary a thing to consider. Make the patient as comfortable as possible, placing the head in a position that will give the best possible view of the field of operation. This may be on an operating table in a half reclining position or in an operating chair tilted well back. The operation is not necessarily a long one. The size of the incision should be governed entirely by the nature and extent of the deformity; I have not found any particular incision thru the membrane uniformly advisable. The Killian may be quite as satisfactory in a given case as the Yankauer or any other. The application of a one in one thousand adrenalin solution rather favors a subsequent hemorrhage due to reaction from so strong a solution. A too strong solution of the adrenalin allows decided oozing to occur for twenty-four or more hours after the operation. A weaker solution, tho a little more tardy in action, serves the purpose well. I first make an application of cocain, then the adrenalin, repeating the cocain application several times. I noticed an operation by Dr. Haseltine in which he plugged up the posterior nares to prevent dripping of the cocain backward with consequent absorption; I think this very advisable. In regard to other operations mentioned by Dr. Rice, I can see no excuse for the fracture operation or any of its modifications. Fracture operations do not appeal to me at all. I would not advise one in any case that I have ever seen. There need be no hesitation in elevating a segment of the nasal mucous membrane and making the necessary corrections under it. I use a blunt pointed knife to make my incision thru the membrane and cartilage, determining by the finger when thru the cartilage. The swivel knife is a very convenient instrument. One may however sacrifice much nonoffending cartilage because of the ease with which this swivel blade may be made to swing around it and take it away.

Care should be observed not to take away more cartilage than is necessary to correct the condition. At the same time, as much of the nasal crest of the maxilla and of the vomer should be sacrificed as is necessary to produce a straight septum and a free air space.

I have never made it a practice to give an opiate before the opera-

tion. It might be advisable in particular cases, but such cases must be very rare. There is not very much nervous shock. It seems to me that the time of two or three hours mentioned here by one of the members would be very long for even the worst cases. Half an hour will usually suffice. I use the chisel for removing the nasal crest and nasal spurs and ridges, and can get them away much more rapidly and smoothly than with any of my forceps. I remove the dressing at the end of forty-eight hours, and seldom replace it. I would replace it if there was much bleeding. I have used the dressing suggested in Dr. Rice's paper of sterile Balsam of Peru and castor oil, but can see in it nothing of advantage. Strips of gauze half an inch wide do not seem to me to be as satisfactory as one and a half inch strips carried back sufficiently to press and hold the two sides into position. Properly shaped splints of Bernay's dressing, which expand on becoming moist, are the most desirable dressing I have ever seen.

BURTON HASELTINE: The subject of submucous resection is one of peculiar interest to me inasmuch as I had the pleasure of introducing it to this society. At the Atlantic City meeting Dr. Rice condemned the procedure rather strongly, and I am gratified to observe that his attitude since then has materially changed.

The question as to how septal deformities develop is one of both theoretical and practical interest, and Dr. Townsend's paper seems to be an important contribution to the subject. The nasal septum is more often deformed than any other single portion of the body. The reasons for this are more profound than is commonly recognized.

Direct traumatism plays only a secondary role. The remarkable enlargement of the anterior cerebral vesicles in man produces an actual increase in the size of the nasal organ at the same time that its function is being rapidly lost. We have then the phenomenon of an organ increasing in size while losing its function, and this explains its low vitality and the many peculiarities of its growth. The formation of the septum is not complete even at puberty, and its exposed position naturally subjects it to many accidents which interfere with its normal growth.

Deformity here is far reaching in its effects and produces many pathological conditions not strictly local. We should remember that not every one who can breathe freely has a normal nose. There are many deformities deeply placed and not easily seen producing obstructions of drainage, reflex disturbance and especially damage to the ears. Asthma is often dependent upon nasal deformities in the ethmoid region. Failure to relieve in such cases is sometimes because only a partial correction has been made. Some cases need to have the ethmoid itself cleared out.

Classification either of deformities or of operations is in my judgment of little value. The principle is to remove all of the deformed portion without injury to the membranous coverings, and if this is

skillfully done the result will be good whether we have dressed with Balsam of Peru or sterile water.

A. W. PALMER: I would like to ask Dr. Haseltine whether he considers the operation his baby or the operators as his babies; if the operators, I am one of his first babies. Three years before Dr. Haseltine wrote his first paper I got the idea of making this resection and tried to do it with poor instruments. I had three operations and got two more or less failures. After this I gave it up. Then I saw Dr. Haseltine perform the operation at Atlantic City very beautifully, and I was so impressed with the neatness and effectiveness of it that I have done no other operation since. I have seen a good many cases after fracture operations, a few of them were my own, but the majority were done by other operators—some of national reputation. In all of these cases and in all fracture operations the structures are back in four or five years to where they were before any operation at all: in other words there was no permanent good result. This is the reason that I have given the fracture operation in all cases.

Dr. Linn speaks of using weaker adrenalin solutions; I never use a stronger solution than a one to two thousand. Last year at Atlantic City at the American Medical Association meeting there were three men who spoke of the great utility of adrenalin in the strength of one part to six thousand. They said that it was just as effective as a stronger solution and not nearly so likely to get up a secondary hemorrhage.

Some rhinologists do not correct deformities of the septum if only the middle meatus is interfered with, considering that the breathway is not sufficiently interfered with to warrant operation. I think it is best to be thoro and give the patient the advantage of a breathway thru the middle meatus as well as thru the inferior. Experiments have been made to see what percentage of air goes thru the meatuses and contrary to all expectations it was demonstrated that a little bit more went thru the middle meatus than thru the inferior. Therefore we should give a good deal of attention to the perviousness of the middle meatus.

I want to call attention to a condition that I have met with in seven cases; after cutting away the deflection in the anterior part of the nose I came across what I thought was a synechia; by running a probe between the middle and upper turbinated I came to something solid. I discovered that the supposed synechia was an exostosis lying against the middle turbinated. This cannot be a very rare condition, as I found it in so many cases. Keep your eyes open to see if this condition is present.

G. M. HAYWOOD: My experience has been with a one to one thousand solution of adrenalin. The reaction from that does not cause the hemorrhage, it is the tissues that have been lacerated that cause the hemorrhage. I will try the weaker solutions and if I find them as good I will use them.

ABSTRACTS.

Visual Sensation, Perception, Appreciation and Judgment.—Robert W. Doyne. The impressions of the waves of ether are conveyed from the eye to the cortex of the occipital lobe in the neighborhood of the calcarine fissure of each side and on to the neighborhood of the angular gyrus, giving rise to a sense of light and of form, while certain impressions are conveyed from both sides to other parts of the brain cortex, near the left angular gyrus, and are there stored up as memories to be made use of by the center in the frontal lobe as forming visual judgment.

The form sense entails a very much more elaborate physiological process than light sense, for to receive the former means invoking the aid of the ocular motor apparatus in controlling the co-ordination of the eyes and focusing them, as well as reference to the sense of touch. A man 72 years of age complained of inability to see people or forms, but of a constant white glare. The optic disks were pale, but not papery-white, he co-ordinated his eyes and had not the appearance of a blind man. He could see a sheet of paper as a white glare, and would tell the number of artificial lights in a room by the glares in different directions. If the illumination were good, he could tell how many men were seated in front of him at dinner by a sense of glare from their shirt fronts. The only intelligible interpretation seems to be that he had lost all visual impression, save only that of light.

Doyne is inclined to believe that differentiation of color takes place in the brain rather than in the retina. In retinitis pigmentosa differentiation of color is often preserved as long as a vestige of light perception remains, while in atrophy of the disk from a descending cause, such as tabes, perception of red and green is sometimes lost before visual acuity to form sense is affected to any great extent. Much of Edridge-Green's work on color blindness goes to prove this also. The writer has carried out a set of experiments by means of a rather ingenious arrangement, in which he photographs the pupil in its response to the various colors of the spectrum; he found the pupillary reaction infinitely greater at the violet end of the spectrum and regularly declining in degree as the red end was approached.

As suggesting that the color center is independent of the centers for light and form, the case of a railway signalman is given. Following an attack of tetanus he was found, upon return to duty, to be absolutely without color sensation. Malingering was eliminated; he had done his work for many years without the least difficulty in distinguishing the signals, but after his illness he found on looking at the signals that he was unable to distinguish what they were. This case would seem to support the view that there is a separate center for color, which in this patient had been destroyed.

We go now to the center, or centers, for *visual memory*. A child learning his alphabet is told that certain marks represent the letter A. The impression of the letter A is then formed on the cortex of the occipital lobe, half in one side and half in the other side of the brain. The impressions from each side are then carried to another part of the cortex in the region of the angular gyrus on the left hemisphere and there stored up for future comparison, thus linking the two sides of the brain in one common center.

Coincidentally with this an impression is carried from the lower center for hearing to the center of oral memory of the sound A, association fibers connecting these two centers of visual memory and oral memory.

Later the child's attention is again drawn to the letter A. This again impresses the lower visual center of the cortex of the occipital lobes, but on this occasion the highest center in the frontal lobe, which has association fibers with all the lower and higher centers, recognizes that there is stored up in the center for visual memory an object of the same appearance, which is linked up with the oral center, which attributes the sound of A to that object. This volitional center gives stimuli to the various centers that are associated with the act of speech, and the child repeats the word A. Similarly letters are linked into words, the words stored up, and so on with longer words, which are afterwards recognized as being composed of single letters, or may be recognized as complete words, the one being obviously a quicker process than the other.

For more general objects, faces, etc., it is probable that the response is shared between centers on both sides of the brain in the neighborhood of the angular gyrus. Possibly only those objects that are incomplete without the association of sound, and consequently of speech, are relegated to a special center for their more compound appreciation.

We may have a lesion in the course of the nerve fibers from the lower centers in the calcarine fissures to the center for visual memory, in which case a patient would be able to see a letter, be able to describe it and to draw it, but not able to recognize that it is the letter A. If told to write the letter A, he will do so correctly, but having written it would be unable to recognize that it is the letter A. Should the lesion be actually at the center of visual memory he would be unable to write the letter A, the visual memory having been destroyed. A lesion occurring in the course of those fibers, from their position might easily include also the direct fibers from the eye to the left calcarine fissure, in which case the individual would also have a right homonymous hemianopsia.

In illustration, a case of a patient is recalled who showed loss of memory of words, letters and numerals. He was able to write down a letter when told to do so, but unable to recognize it when he had

written it, showing that the center for memory of letters was not destroyed, but fibres leading to it. He also showed word dumbness; he knew what he wanted to say, but could not say it; he was able to recognize people whom he knew, but was not able to say their names. From this we can conclude that the connections of the lower visual center with the center for objects of the right and left side of the brain was intact, but the association fibers with the center for names and the association fibers of the center for names with that of speech were interrupted. He could draw the picture of a person whom he had seen, showing that the association fibers to the center for writing or drawing were intact. This loss of power to recognize objects is generally called mind blindness, and the other conditions, which are subdivisions of this, are spoken of as word blindness, letter blindness, word dumbness, etc. Those congenital forms of trouble that go by the name of word blindness, letter blindness, figure blindness, music blindness, etc., and what is commonly associated "word dumbness," are really not disease at all, but are rather to be regarded as a lessened potentiality of the brain in these particular directions.

The gray matter concerned in these various operations is less present. Either the fibers connecting the lower to the special centers are of low order of conductivity, or the cells of the center itself are poor and insufficient. The aural apparatus in the centers may be excellent, and a child who has taken a long time to learn to read may quickly appreciate what he was told and will learn his lessons by repeating them aloud. A case is cited illustrative of word blindness combined with word dumbness. The patient had been very slow at learning to read, and reads badly now. Such words as "mighty" he would reproduce as "great," and so on, the meaning having been grasped but the speech center not being so ready and capable of reproducing the conception.

The minor degrees of word blindness are well illustrated by people who take a long time reading a book, compared with those who can skim over words and realize their gist with great rapidity.

After reading anything through, there are two ways at least in which the subject matter can be reproduced to the mind of the reader. He either sees and, as it were, re-reads what he has seen before, or he reproduces the subject matter from its relation to mental conclusions and associations. The one is, so to speak, parrot-like, relying upon his visual memory, the other is thought out, relying upon a still higher brain center—or, as in most cases, relying upon both.

The master mind is his whose higher brain center has plenty of gray matter of good quality and is in close and ready association with all the other brain centers so that his grasp is wide and his judgment good, whereas the other may have only a splendid center for memory and have no power of dealing in his higher physiologic center with the remembered facts. Of course, he who has not only good memory centers, but also a highly developed intellectual center is best of all.—*Ophthalmoscope*, July, 1910.

New Method and Instrument for Extraction of Cataract in the Capsule.—C. C. Savage (*Journal of the Amer. Med. Assoc.*, July 23, 1910). The pupil is dilated, the eye cocainized and thorough aseptic preparation is made. The upper lid is controlled by an elevator held by an assistant until the cataract has been extracted. A second assistant holds down the lower lid. The eye is fixed by grasping the tendon of the internus at its insertion. The section is made by a Graefe knife, making a conjunctival flap when possible. In making an iridectomy he prefers to have an assistant cut the iris while he holds the forceps himself, and he prefers a small iridectomy.

Still grasping the tendon of the internus, the operator lays down the iris forceps and takes up the detacher. He easily passes it through the corneal incision, directing the free point into the pupillary opening, and passing it beneath the nasal part of the iris, in contact with the anterior surface of the cataract. The angle of union of the two curves, and the vertical curve itself, are easily passed between the iris and the cataract. When thus passed, the horizontal curve must rest on the cataract about half-way between its center and its lower border, while the vertical curve must rest on the cataract half-way between its center and its temporal border; and both curves must be behind the iris, so that it may not be injured when the dislodging pressure shall be made. On two easily executed movements of the detacher depends success in freeing the cataract from its ligaments: First, by rotating the instrument on its long axis outward the vertical curve is made to press the outer edge of the cataract backward, while it makes the inner or nasal edge advance to the same extent. This pressure, when properly made, tears loose the lateral (both temporal and nasal) ligaments, almost from top to bottom. The detacher is now returned to its primary position, and the usual second movement is effected by advancing the upper end of the instrument in such a way as to make pressure with the horizontal curve. This pushes backward the lower part of the cataract, while it causes the upper margin to advance to the same extent. This tears loose the remaining ligaments above and below, which were not torn by the first rotation. The rotation of the cataract, first on its vertical axis, detaches all lateral ligaments, and second, on its horizontal axis, detaches the ligaments above and below. The two movements together sever the ligaments throughout the entire circle. After the second rotation the detacher is returned to the primary position, and then removed in the reverse order of its introduction.

The fixation forceps, having been used while making the corneal incision, while doing the iridectomy, and while using the detacher, must now be laid aside. In one hand the operator now takes the Daviel spoon, with the back of which to make pressure on the lower part of the cornea for the delivery of the detached cataract. In the other hand he takes the cystotome, with the shank of which to make counter pressure, if necessary, until the cataract begins to emerge, at

which moment, while keeping up the pressure, he ceases to make counter pressure, and with the point of the cystotome transfixes the cataract from behind, and lifts it out of the eye. The moment after transfixion all pressure is removed, thus lessening the risk of escape of vitreous.

If any iris is in the wound, it is replaced; the edges of the corneal cut are coapted and the conjunctival flap, if any, is smoothed out. Now the operator takes the lid elevator in his own hand, and gently places the lid in its normal position.

The after-treatment is that usually followed.

Investigations Concerning the Immunizing, Especially the Phagocytic, Ocular Processes.—M. Zade (*Arch. f. Ophth.*, Vol. LXXV, Part I). 1. The lacrimal secretion contains neither bactericidal substances nor opsonins.

2. The aqueous of normal, non-irritated eyes (rabbit, dog, man) contains neither bactericidal substances nor opsonins. After a single withdrawal of aqueous, bactericidal and opsonic elements appear in the new formed aqueous. Opsonins also enter the anterior chamber in the most diverse inflammatory conditions of the eye. The opsonins following irritative conditions quantitatively are much below the opsonic power of the blood serum. Dionin causes a weaker opsonic effect in the aqueous than subconjunctival injections of normal salt solution.

3. The destruction of pneumococci in the peritoneal cavity of the guinea pig and in the vitreous of the rabbit may be caused solely by bacteriolysis without demonstrable phagocytosis.

4. With two positively active immune sera, neither in the body of the animal nor in the reagent glass could a bacteriotropic action be demonstrated.

5. The opsonins resulting from corneal or vitreous infections are not specific.

Genesis of the Glaucomatous Excavation.—V. Hippel (*Arch. f. Ophth.*, Vol. LXXIV, Festschrift) summarizes the results obtained from an anatomical examination of 46 cases, as follows:

1. The so-called cavernous atrophy of Schnabel is exceedingly common in glaucomatous eyes; in nonglaucomatous eyes, however, rarely observed.

2. The so-called initial appearances of cavernous atrophy cannot always be positively differentiated from artefacts. Where it is possible to exclude the latter, it is a question whether the condition is always one of dissolution or merely an infiltration of the tissues.

3. In more advanced stages there doubtless exists a kind of atrophy which differs from other known varieties in the completeness of the nerve tissue atrophy.

4. Spaces similar to those found in the papilla are frequently, but

not constantly, met with in the ganglion cells of the retina. The material up to date is inadequate to decide whether these are of vital nature or artificial products. The occurrence of similar changes in numerous cases of diverse nature is in favor of the latter supposition.

5. The lamina cribrosa in normal eyes has a variable position and is of unequal strength. A lamina with marked posterior convexity may occur in normal eyes. (Elschnig.) It is therefore extremely difficult in many cases to decide whether the posterior displacement of the lamina is abnormal.

6. The lamina cribrosa may remain in the normal position not only during the incipient stages, but even after the complete formation of a glaucomatous excavation.

7. In other cases, however, the development of the excavation without displacement of the lamina begins in the absence of Schnabel's spaces.

8. The relations of the lamina are therefore variable, consequently neither H. Muller's nor Schnabel's explanation of the development of the excavation are applicable to all cases.

9. In attempting to explain the genesis of the glaucomatous excavation, the conceptions formal genesis and causal genesis must each be considered separately. Schnabel's views apply only to the formal genesis; by no means do they justify positive statements concerning the causal genesis.

10. Intraocular increase of tension still remains the most probable cause of the excavation; at any rate, this has not been disproved by Schnabel. It must be conceded, however, that increase of tension may assert itself in another way than in a simple mechanical displacement of the lamina. What this action is, necessitates further study. Perhaps an important anatomical finding is the enormous hyperemia of many optic nerves in glaucoma.

11. Hemorrhages cannot be considered the cause of Schnabel's spaces.

12. A totally excavated papilla may almost be bridged over by a delicate membrane on a level with the retina containing branches of the central vessels.

13. Abnormal transparency of a non-excavated papilla might very likely simulate the clinical picture of a total excavation.

14. The retinal margin is relatively frequently displaced into the excavation.

15. Glaucomatous increase of tension may lead to marked elongation of the globe, to thinning of the sclera at the posterior pole and to high-grade myopia.

16. Typical Schnabel atrophy may result from the experimental production of secondary glaucoma following injections of scarlet oil (Scharlach-öl) into the anterior chamber of a dog's eye. While as yet only one such case has been observed, it nevertheless suggests an experimental investigation of this question.

A New Rapid Contrast Stain for Trachoma Bodies in Section.—H. Herzog (*Arch. f. Ophth.*, Vol. LXXIV, Festschrift) employs a modified Pick-Jacobson solution consisting of:

1. 15 cc. of a $\frac{1}{4}$ per cent. aqueous solution of carbolic acid.
2. 20 drops of a saturated (absolute) alcoholic methylene blue solution.
3. 10 drops of a 1 per cent. alcoholic (10%) fuchsin solution.

The specimens are passed through absolute alcohol, anilin oil-xylol and embedded in paraffin.

Section should be of 5 μ thickness.

The mounted sections are then stained with the above mixture 6 to 8 seconds, the excess removed and the sections quickly passed through alcohol to xylol.

Osteoma of the Nasal Accessory Sinuses With Rare Ocular Complications.—H. Marx (*Arch. f. Ophth.*, Vol. LXXIV, Festschrift). The symptoms produced are usually ocular, due to encroachment of the orbital space. Inflammatory symptoms are rarely observed. Marx reports three cases of osteoma of the sinuses successfully operated upon in the Heidelberg clinic. (1) The tumor originated in the anterior ethmoidal cells, secondarily invading the frontal sinuses. (2) An osteoma of the frontal sinus was associated with emphysema of the conjunctiva. (3) The tumor was of sphenoidal origin, the condition clinically simulating orbital cellulitis. Marx could find only one similar case in the literature, an osteoma of the ethmoid reported by Oppenheim.

Iridencleisis Antiglaucomatosa Holth.—Bentzen (*Arch. f. Ophth.*, Vol. LXXIV, Festschrift). Twenty-two cases operated on by Holth's method and by a modification devised by Bentzen, of Copenhagen. The latter found it difficult to procure a sufficiently large iris prolapse without including the sphincter in the iris incision; he therefore abandoned the operation and performed iridectomy with encleisis of one of the angles of the coloboma, a procedure he performed 11 times. In the twenty-second case he modified the operation, doing a preliminary iridectomy through a corneal lancet incision followed by a subconjunctival encleisis after the eye became quiet. (He has recently performed this operation four times and considers it the safest method for procuring a subconjunctival encleisis.)

In judging the curative effect of subconjunctival incarceration the writer feels it necessary to make allowance for the unfavorable condition of the cases operated upon. 13 of the 19 cases of chronic glaucoma being markedly degenerated; eight patients were 70 years of age or over.

In a case of buphthalmos the operation proved very effectual. Normal tension and a general favorable result occurred in 13 cases (59 per cent.).

While the writer believes that perhaps the operative method is open to improvement, clinical experiences indicate that chronic glaucoma should be operated on as early as possible, that the incarceration of iris tissue into the scleral wound is free from danger and in many cases is of therapeutic value.

Danger of Sympathetic Ophthalmia From the Use of the Cautery in Treating Iris Prolapse.—H. Gifford (*Jour. A. M. A.*, July 30, 1910). Fresh, non-infected prolapse should be replaced if possible; prolapses which cannot be cleanly excised should if possible be cauterized and the area scraped and protected at once by a conjunctival flap. On account of the danger of sympathetic ophthalmia, no prolapse should be treated by a hot metal cautery unless a protecting conjunctival flap can be made to adhere to the area cauterized, as it is probably safer to leave the prolapse alone; in some cases of large corneal prolapse to which conjunctival flaps can be made to adhere with difficulty or not at all, the use of trichloroacetic acid, and probably other chemicals, produces a firm, nonirritable scar. Whether this method is entirely devoid of danger remains to be seen.

The Use of a Mass of Fatty Tissue As a Stump in Ocular Prothesis.—A. E. Ibershoff (*Ophthalmic Record*, March, 1910) describes the following method:

A circumcorneal conjunctival incision is made and the conjunctiva completely undermined. A catgut suture is passed through the tendon of each rectus before the latter is severed. These sutures are reflected out of the wound, and the eyeball removed in the usual manner. A mass of fat about the size of a walnut is excised from the patient's abdomen or gluteal region. The orbital hemorrhage is controlled by pressure, the excised fat is placed in the capsule, and four sutures tied over it, uniting the recti muscles in the form of a cross. Tenon's capsule is then sutured with fine catgut and close stitches, the conjunctiva is sutured with silk, and the usual dressing applied without pressure. The conjunctival sutures may be removed within a week, and a shell eye fitted three weeks later. The advantages claimed for this operation are a more prominent stump and increased mobility of the prothesis.

Skin Disinfection With Tincture of Iodine Before Operations On the Eye.—(*Klin. Monatsbl. f. Augenheilkunde*, Juli, 1910, and *American Journal of Ophthalmology* [translation by Adolf Alt], September, 1910.) In 1908, A. Grossich simply brushed the unwashed skin with tincture of iodine, and repeated the process when the operation was finished; wounds treated in this way healed by first intention. He also applied this method to accidental wounds, with a like happy result. He has now given up bandaging, and brushes the skin sutures daily with the tincture until the cicatrix is formed. Eczema may rarely follow the application of the iodine, especially when it is made

to such parts as the scrotum, perineum, face or neck. By Koenig it is supposed that the skin is hardened by the alcohol contained in the tincture, so that the bacteria are fixed, while their further development is hindered by the iodine of the preparation.

Segelken has performed seventy-eight operations upon the eyes in which he disinfected the skin of the eyelids by means of common tincture of iodine. His list included cataract, enucleation, extirpation of the lachrymal sac, exenteration, iridectomy, tenotomy, symblepharon, plastic operation on the conjunctiva, and so forth. In addition to these, the tincture was applied in five cases of recent sclero-corneal wound, and in one case of discission to the point of puncture on the scleral conjunctiva. No disturbance took place during the healing of the wounds. No complications were observed, except a passing edema or erythema of the skin of the eyelids in predisposed patients. He brushes the skin with iodine once only, and in his last ten cases has contented himself with diluted tincture of iodine (5 per cent.). Segelken concludes that "we have in the tincture of iodine an agent which in eye operations simplifies disinfection greatly and evidently perfects it."

A Modification of the Scissors Operation on the Lower Punctum.—Dr. J. W. Charles inserts one blade of the scissors into the canaliculus, turns the other blade outward until it lies upon the conjunctiva temporarily to the former, then presses the conjunctiva upward into the bite of the scissors and extends the incision backward toward the cul-de-sac. This leaves a rather angular incision; the principal addition to Dr. John Green's operation lies in the fact that the flap is then cut off by a vertical snip of the scissors, leaving a triangular depression which acts as an artificial lacus lacrimalis in the palpebral conjunctiva almost immediately after the operation. The wound is of course kept open by stretching with a probe until the depression is covered with epithelium. The advantages are the almost immediate relief, the retaining of normal pumping power, the final retention of as nearly normal relations as possible, since the new punctum remains in contact with the globe and its greater applicability in cases of beginning ectropion.

The method differs entirely from the discarded Critchett operation, which consisted in slitting the canaliculus into the sac and removing a large triangular flap with this incision as a base. That resulted in deformity.—*Ann. of Ophth.*, Oct., 1910.

"Glaucoma is essentially an edema of the eyeball, and for its production we must hold responsible the same circumstances which are responsible for a state of edema in any other part of the body. According to the studies of one of us, edema represents nothing but a state in which the affinity of the tissue colloids for water is increased above what we are pleased to call normal. This is brought about, in

the main, through chemical changes in the tissues themselves whereby substances, particularly acids, capable of increasing the affinity of the tissue colloids for water are either produced abnormally in the tissues or stored in excessive amounts. The various neutral salts are capable of counteracting the effect of acids in increasing the affinity of colloids for water, but some salts are more powerful than others. Sodium citrate is among the most active in this regard, and this constitutes one of the reasons for its choice in our clinical studies. A second reason is that this salt does not favor the formation of corneal opacities."—Thomas and Fisher, *Ann. of Ophthalm.*, Jan., 1910.

Miner's nystagmus has been relieved by formic acid (25% solution), five minims—increased to ten—internally in water three times a day.

Radium's Action on the Nervous System.—(*La Clin. Ophthalm.*, Feb., 1910.) Analgesic in orbital epithelioma; curative of orbital neuralgia, and of a recent facial paralysis—weak intensity was used in these cases. Also remarkable results were achieved with the pains of tabetics, and in two cases of facial paralysis with partial degeneration.

Idiosyncrasy of the Eye to Cocain and to Atropin.—(*La Clin. Ophthalm.*, Feb., 1910.) The morning following four drops of 4% cocain (for removing a corneal foreign body), the corresponding cheek was edematous and the conjunctiva chemotic; no pain, itching nor temperature. On four other occasions the same thing occurred. A skin eruption appeared on the fourth or fifth day. In a week everything was all right. Two per cent. stovain produced no such effect.

A woman, subject to recurrent iritis, who had always born atropin well, twice—at an interval of three years—developed (after instillation of two drops of atropin) chemosis of conjunctiva, edema of lids and cheeks, eczematous reddening, and intense itching lasting four days. A man with detached retina showed the same consequences of two drops of 1% atropin.

All these people were rheumatic and over fifty years old.

Sodium Citrate for Acute Glaucoma.—I. M. Heller reports (*Ann. of Ophthalm.*, Oct., 1910) three cases of marked and prompt relief of subconjunctival injections of about 8 minims of the 4.5% solution, preceded by a few drops of cocain. The immediate effect was increase of pain with smarting, which lasted about two hours. Aspirin and pilocarpin was the only after treatment, except codein once for one patient.

SOCIETIES.

AMERICAN HOMŒOPATHIC OPHTHALMOLOGICAL, OTOLOGICAL AND
LARYNGOLOGICAL SOCIETY.

SPECIAL NOTICE.

Fellow Members:

Arrangements are now well under way for the 24th annual session of the American Homœopathic O., O. and L. Society, which will be held at Naragansett Pier, Rhode Island, beginning Tuesday, June 27, 1911. This is the week of the American Institute meeting at the same place and the programs will be so arranged as to avoid conflict.

Further details as to headquarters, social features, etc., will be announced later. The matter of greatest immediate importance is the work of preparing the scientific program.

It is planned this year to have several exhaustive symposiums upon subjects pertaining to recent developments in our specialties, and work upon several of these is already begun.

Suggestions are earnestly requested from all the members regarding subjects that might well be presented in this manner. As circular letters are not to be issued this year each member is now requested to write the president or the secretary as to any contribution he is willing to make to the program as a paper, discussion or exhibit, or any subject he would like to have presented by other members.

- This should be done at once in order that the officer may have time to act upon the various suggestions. It is hoped that every member will write a personal letter to the officers upon receiving this copy of the JOURNAL, offering suggestions and stating what he is willing to do for the success of the meeting.

For the convenience of the western members special cars will be provided on the Institute train which will be so timed as to allow a full day in either New York or Boston.

Following the very successful plan of recent meetings, a day of clinical entertainment will be provided in one of these cities.

Respectfully submitted,

BURTON HASELTINE, *President,*

DEAN W. MYERS, *Secretary,*

150 Michigan Ave., Chicago.

Ann Arbor, Mich.

BOOK REVIEWS.

A MANUAL OF DISEASES OF THE NOSE, THROAT AND EAR. *Second Revised Edition.* By E. BALDWIN GLEASON, M. D., Professor of Otology at the Medico-Chirurgical College, Philadelphia. 12mo. of 563 pages, profusely illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Flexible leather, \$2.50, net.

This valuable manual needs no commendation to those familiar with the first edition of June, 1907, or its reprints in the following November and July. The sections on the tonsils and adenoid structures of the pharynx have been practically rewritten, and new sections added on membranous rhinitis, nasal mycosis, septal perforations, Ludwig's angina, Vincent's angina; leprosy of nose, pharynx and larynx; the blood in diseases of the upper respiratory tract; intracranial complications of optic disease, and the climatology of diseases of upper respiratory tract. The formulary at the end of the book has been rearranged with many omissions and additions; the local therapeutics of all drugs mentioned in the text is described.

Our author "has never observed hypertrophic rhinitis assume the atrophic form except in a syphilitic."

We are rather surprised that the "modified Valsalva" (taught for many years at the New York Ophthalmic Hospital College) seems to be unknown to our author. He very properly holds it "somewhat dangerous to instruct an individual to inflate his middle ear by Valsalva's method, as its frequent use is liable to be followed by atrophy of the drum head and increased deafness." The modification consists in plugging each external meatus with a finger, to afford a resistance to overdistension of the membrana tympani.

We miss Ichthoform (ichthyol-formaldehyde) which is one of the most satisfactory applications for atrophic rhinitis within the experience of the reviewer.

For tonsillotomy and tonsillectomy pushing the tonsil by the fingers is no longer advocated, we are glad to note, but are surprised to find no mention of Casselberry's or Haseltine's tonsillotomes; in default of these, which have no fork, Ermold's is mentioned with its fork removed.

THE PHYSICIAN'S VISITING LIST FOR 1911. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia.

Not to know this visiting list is to argue one's self unknown. Of course every physician preserves his visiting lists; we wonder how many can show all sixty of these? Practice makes perfect, and this firm has not succeeded in finding any further improvement to make in this little book, beyond keeping it up to date.

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EDITORIAL.

SURGICAL FEES.

EACH of us can doubtless cite instances in support of the proposition that not only the laity but many general practitioners might with advantage (to the surgeon) be educated to, or acquire, a better conception of adequate fees for surgical services.

It is at times a difficult problem for the surgeon to decide what to ask for an operation which he has not performed except gratuitously. In fact the successful solving of this problem depends upon the surgeon's business instincts; no rules can be laid down, nor need any advice be here given except that it is well to have clearly understood whether or not the specified fee is to cover after-treatment and the services of the anesthetist and assistants. It is a mistaken zealotry for "the dignity of the profession" to carp against "shopping around" by the patient's family—that can never be entirely prevented.

But the profession at large and the laity should realize—the family doctor should explain to his patients—that general anesthesia is now a specialty and is too serious a matter to be intrusted to merely "any doctor;" experience and especial study are necessary to ensure the greatest possible safety and comfort both during and after the operation. Of course the fee for such services is and should be larger than before the subject and its technique were so well understood.

In considering the size of a surgical fee—particularly if it is criticised as fairly high for the rich man—it should be borne in mind that the dollar varies in size with the wealth of its holder; some folks think in units of a nickel, counting every car fare and postage stamp, others in units of a hundred shares of stock worth, at par, ten thousand dollars.

Of recent years there is an unfortunate tendency to commercialism creeping into the profession, an effort on the part of some physicians to secure from the surgeon or other specialist a cash commission for bringing work to him. Such demoralizing practice should be energetically discouraged as an insult to the surgeon and to the profession. The code of medical ethics should denounce this practice in no uncertain terms, and any man seeking such a commission should be denounced to the disciplinary or executive committee of his society, and—unless he repent—he should be black balled in any medical organization in which he seeks membership.

CORRECTION.

Dr. G. A. Suffa desires the following correction to be made of his discussion on page 535, in last December's issue of the *Homœopathic Eye, Ear and Throat Journal*, concerning Simple Extraction of Cataract; it should have read:

"In the *Ophthalmic Record* of February, 1910, Major Smith described his method of extracting the lens within the capsule and I gather from his article that he uses the tip of the strabismus hook and not the shank. Major Smith does not turn every lens in removing it, only the intumescent variety or swollen lenses, the point of the hook being placed lower than when the lens is extracted without turning; the pressure being made downward, toward the patient's feet, as well as backward, and later backward and upward as the lens is being delivered.

"When extracting a lens which is not to be turned the tip of the hook is placed against the lower third of the cornea and pressure made backward, gradually changing to backward and upward as the lens is being delivered."

A CASE OF SARCOMA OF THE LARYNX AND ITS TREATMENT.

CHAS. E. TEETS, M. D.,

New York.

IN the latter part of August, 1908, Dr. R. was referred to me by a "You might think it strange for an allopathic physician to come to a homœopathic specialist for advice and treatment." He had been examined by two or three specialists of the old school who advised operation at once. They had all expressed the opinion that it would be difficult to remove the tumor completely thru the mouth and advised tracheotomy and laryngotomy or partial laryngectomy. I informed him that I thought I would have no difficulty in removing the tumor by the endolaryngeal route, but would like to watch its development for two or three weeks. The following history was given:

For years he had been troubled with an irritation of the larynx and a tickling cough. For the past year the cough had been more annoying and at times, especially when lying down, there was some interference with respiration. He had no idea what was the real cause of the cough and the other symptoms until visiting a friend also a physician who, noticing the throat symptoms and the interference with respiration, asked the privilege of making an examination. The physician who made the examination was so surprised in seeing such a large growth that, without thinking, he exclaimed: "You have an immense tumor in your throat, and should have it attended to at once." This was an awful shock to the doctor and it was a long time before he recovered from it; he began to worry and lose flesh. He consulted different specialists of the old school and while they differed as to the point of attachment, all agreed that the best method for its removal was the one previously mentioned.

After hearing my opinion he decided to put himself under my care and allow me to remove the growth and treat him as I thought best. The tumor was removed on September 29, 1908, with the wire snare. The loop was turned forward at right angles with the canula and then passed over the growth. This brought the canula back to the growth

and made it a little more difficult to cut through the tumor with the wire. As I drew the wire within the canula, and the loop became smaller, I crowded it down over the point of attachment and in this way apparently removed the whole of the neoplasm.

An important point in the technique of the operation for the removal of tumors of the throat and nasal cavities is to avoid injuring the healthy tissue, because if the healthy tissue is injured during the operation the growths will often recur within a short time and in greater abundance.

The tumor was attached to the left arytenoid and the tissue back of it. It measured about one and one-quarter inches long and about three-quarters of an inch in diameter, and attached to the end of it was a small growth about a half inch in diameter. It was slightly movable, but had a large base measuring about three-eighths of an inch in diameter. There was some hemorrhage following its removal, but not enough to cause alarm.

The growth was examined by Dr. Heitzman who gave the following diagnosis: "Dense fibroma changing to large spindle and net celled sarcoma."

The growth was hard at the periphery, but considerably softer in the center. Attached to it were a number of small growths, the largest of the small ones being situated at the top of the tumor. From my experience, as I have removed a number of sarcoma from the throat and nasal cavities, its appearance and from the way it developed, I have no doubt that this was a sarcoma. It may have started as a benign tumor, but gradually changed to a sarcoma.

This case confirms what I have frequently tried to impress upon the students, that a physician should never prescribe for laryngeal symptoms until he has made an examination of the larynx and neighboring parts. I am satisfied this tumor started three or four years previous to the first examination, and when he was first prescribed for if an examination had been made of the larynx the cause of the trouble would have been recognized and the proper treatment applied.

The after treatment of this case I considered was of prime importance, and here—as well as about the best method for removal—laryngologists differ.

The after treatment consisted of applications of chromic acid fused upon a probe and applications of thuyarine made in the office and by the patient at home several times a day by means of an atomizer.

The doctor was examined a week ago (1910) and there is no evidence of the return of the growth, or any unfavorable symptoms whatever.

Several cases have been treated with the same favorable result, but the following case will confirm what I claim for the after treatment—that it will often prevent the return of sarcomas of the nose and throat.

Over four years ago I removed from Mrs. L. a sarcoma. It was attached to the left middle turbinated body and not only was the growth removed but a portion of the turbinate. She remained under treatment for about three months, and then I saw nothing of her until about two years after, when she came to me complaining of stoppage of the left nasal cavity.

Examination revealed a tumor completely filling the left nasal passage and extending into the nasopharynx. The sight of the left eye had been destroyed. A second operation was performed March 1, 1909, under a general anesthetic, and on account of the profuse bleeding it was impossible to remove all of the growth. That part of the growth remaining after the operation was treated with the chromic acid and thuyarine, causing a complete disappearance of the tumor; at the present time, which is sixteen months after the last operation, there is no evidence of the growth returning and the patient is in excellent health.

In making application of chromic acid great care must be exercised not to touch the healthy tissue or to cover too large an area at one time. It is better to make several applications than to take the chance of setting up an irritation in the neighboring parts.

In all cases thuya and bryonia were given internally.

DISCUSSION.

J. IVIMEY DOWLING: I saw a case not long ago that had been diagnosed as carcinoma of the tonsil; about a year after it was removed the man developed pleuritic symptoms and finally died. The post mortem showed that there had been a metastasis to the lungs. The question arose in my mind whether the diagnosis was correct; it might have been sarcoma.

DR. LEWY: I would like to ask whether any one here has had any experience in treating painful lesions of the larynx by injecting the superior laryngeal nerve with alcohol. I saw it used in an advanced case of tubercular laryngitis of a very painful character. I saw the patient daily for ten days after the injection. There was complete relief of the pain. It worked well in this one case, but I have had no chance to try it on any others.

DR. DOWLING: How many minims or drops of alcohol do you inject?

DR. LEWY: One-half cubic centimeter, drop by drop at body temperature in order to avoid spasm of the larynx. It was not difficult in the case I speak of but I do not know whether it will be difficult to do in the next case or not.

G. W. MACKENZIE: I do not think that I can approve of treating the superior laryngeal nerve by injections of alcohol to relieve painful deglutition. This nerve supplies the mucous membrane of the larynx with sensation. It is keenly sensitive, and useful for the purpose of protecting the windpipe and lungs from the inspiration of foreign bodies. When you do away with that sensitiveness there is great danger of foreign bodies getting into the larynx and producing suffocation. Most cases of painful deglutition in cases of tuberculosis are due to a perichondritis, especially about the joints and the movable parts of the larynx (the arytenoid cartilages and the epiglottis). The simplest way to treat a perichondritis is to incise it just as you would a periostitis in the case of a felon. In such cases there is generally a secondary infection of the tubercular infiltration beneath the surface and the most successful treatment is to incise it and let out the pus just as you would do for a felon. This is a routine method of treating painful affections of the larynx and in my experience it is a satisfactory one.

As to the case mentioned by Dr. Teets, I doubt whether it was a sarcoma; sarcomas are not so superficial. The doctor stated that there were spindle cells. This is not sufficient evidence upon which to make a diagnosis of sarcoma; they must be of atypical and irregular forms.

I would like to speak of the question raised by Dr. Dowling. There is greater danger and likelihood of metastasis in sarcoma than in carcinoma. The most frequent site of metastasis is in the liver. Professor Winterstein, of Vienna, an experienced general and special pathologist, claims that he, in all his large experience, has never seen an eyeball removed for sarcoma of the chorioid without the patient afterward developing metastatic sarcoma either in the liver or in the lungs; the longest that any patient lived after the operation was fifteen years. The general rule is that they succumb in a few months or a few years.

W. H. PHILLIPS: I am inclined to support Dr. Mackenzie in his views as to diagnosis. I should like further to ask if it is good surgery to remove malignant growths by intralaryngeal work in elderly men?

GEO. M. HAYWOOD: A Christian Scientist, upon whom I had operated for the removal of a polypus, brought a Christian Science healer to me for consultation and advice. The healer had been to a homœopathic physician who had also referred her to me. I found on examination the arytenoids much enlarged, one was as large as the end of the thumb and the other half as large. I told her that it had gone

too far for a cure to be effected even by an operation, but that I could give her a spray which would give her some relief. She refused. My diagnosis of the case was carcinoma; I had to make a differential diagnosis between that and tuberculosis. Was I right?

HERBERT D. SCHENCK: I recall a case of sarcoma of the chorioid where the eyeball was removed and there has been no sign of return after nine years. On the other hand I have seen cases where the sarcoma returned in a few months. The first case referred to was examined by a competent pathologist.

G. A. SUFFA: I had a similar case twelve years ago without return; I see the patient frequently. The specimen was examined by a pathologist, and I have the growth preserved in alcohol.

EDGAR J. GEORGE: I enucleated an eye twelve years ago on account of a growth attached to the ciliary body which was pronounced by a pathologist to be a melanosarcoma. There has been no return of the growth. I did not keep the specimen.

F. C. SAGE: I do not have so much confidence in the pathologists as some seem to have. I do not believe that they are always right in the diagnosis of these cases. If they start out to see a certain thing they always see it. The science of microscopic diagnosis is not as exact as it is supposed to be by some.

M. A. BARNDT: About a year ago in making an examination of a case who complained of some difficulty about the throat I found a tumor about as big as my thumb on the left arytenoid cartilage. He complained of difficulty in breathing. I suspected sarcoma. I obtained a slight specimen of it and had it examined; the report came back, carcinoma. He had been advised to have it removed but I advised against it. He continued with me some time, I doing what I could by general and local treatment. While at his occupation on the train—he was a railroad conductor—he was taken with a severe and almost fatal attack of suffocation.

He was taken to a hospital where intubation was performed for relief and a part of the growth was removed. It developed very rapidly after that, involving more and more territory. Dr. Bailey's radium plaster was tried; it relieved the pain very much but did nothing else. He lingered six weeks more and finally died.

F. C. SAGE: At the time that the Dowie cult was rampant Dr. Speicher, a homœopathic physician, went in with him. His chief reason was that Dowie had cured him of alleged carcinoma of the throat. "After Dowie's treatment it had dropped out." Of course it was not a cancer, but merely some local condition or inflammation.

DIAGNOSIS OF TUBERCULAR LARYNGITIS.

ROBERT MORTIMER JONES, M. D.,

New York.

THE art of diagnosis must always maintain a position of pre-eminence in the practice of medicine and surgery, notwithstanding the teachings of our branch of medicine that we must prescribe for symptoms not diseases. And in no disease is an early diagnosis more emphatically urged than in tuberculosis, whether of the lungs, larynx, bones or other structures which it may attack.

In considering the condition known as tubercular laryngitis, an opportunity is given for the discussion of that old and ever interesting question as to whether tuberculosis of the larynx is a primary or secondary condition. Fascinating as the subject may be, we must waive it, and proceed to the practical matter at issue, the recognition of tubercular processes involving the tissues of the larynx.

Our present purpose is not to enumerate the ordinary, well known and generally accepted classical symptoms of this condition, but to direct attention to two well marked clinical symptoms observed in the examination of between five and six hundred men at the Metropolitan Hospital, Blackwell's Island, during a one year's service. The cases were varied, ranging from the very beginning of the condition to the well developed and marked cases approaching dissolution.

The first of these clinical symptoms to attract attention, on account of its frequency, was marked deviation of the nasal septum with spur or ridge, in many instances almost occluding the nasal fossa. This deformity, necessitating mouth breathing and chronic catarrhal inflammation of the oropharynx, leads to the query: does this predispose to tubercular laryngitis?

The second clinical symptom, so frequently observed as to attract attention, was a well marked anemia of the soft palate extending up on to the hard palate, with an equally well marked hyperemia of the pillars of the fauces and the uvula. Observing these clinical symptoms, together with aphonia, cough and the ordinary history of tuberculosis, we make a positive diagnosis of tubercular laryngitis, even without ulceration.

The important item for the patient however is not a positive diagnosis after the development of all these symptoms, but to prevent the development of these symptoms by checking the progress of the disease. In order to accomplish this the general practitioner must be instructed and educated to diagnose, for upon him rests the burden of responsibility as patients naturally consult the family physician first in all diseased conditions, and upon his insight and judgment depends the future welfare of his patient.

As specialists, and many of us teachers in medical colleges, it seems to us that our campaign of instruction should begin in our colleges, that our students may start in the practice of medicine with a clear knowledge and understanding of the necessity for care and thoroughness in the examination and treatment of patients, and may have impressed upon their minds how much depends on their ability.

In national, state and county societies and medical clubs we should never lose an opportunity to impress upon the minds of our colleagues the fact of the supreme value and importance of early diagnosis, and the grave results of inattention or inability to make an examination of the larynx, when any suspicion of a tubercular process exists.

DISCUSSION.

I. O. DENMAN: I wish to thank Dr. Jones for his short, terse, practical paper, and trust that his example will be more generally followed by our members. He has given us at least two points in diagnosis that we can carry home with us and retain for everyday use. If we can each grasp at least two things from each paper presented here, I am sure that we shall be more than repaid for our efforts in attending the meeting. How many papers are of such extreme length that instead of teaching what the author surely knows and tries to impart, leave only a juggled array of rhetoric and statistics to bewilder the auditors and finally all too soon be lost in the sea of forgetfulness.

The subject is one of the old yet ever new and interesting ones, and to confine myself to just the phases of it to which the doctor has alluded, as I must do, is to mean a short discussion. No doubt it is owing to a more limited experience and observation of fewer cases than the essayist that I can say that for me a positive diagnosis of tubercular laryngitis is not always an easy task—that is to say in the earlier stages.

When patients presenting the usual symptoms of hoarseness, a sense of dryness or tickling followed by more or less hacking cough and painful deglutition are subjected to a laryngoscopic examination an intumescence of the entire vestibule of the larynx is seen. But as the

disease progresses there quickly develops one of two distinct types of laryngoscopic pictures: a, the inflammatory, in which the laryngeal and pharyngeal mucous membrane is hyperemic and swollen, or b, the anemic in which the mucous membrane is pale and intumescent.

The site usually selected by the tubercular process in a typical case is the posterior wall of the larynx, or at one or the other of the arytenoid regions. The susceptibility of the posterior wall, especially in the interarytenoid space, is said to be due to the peculiar anatomical formation of its mucous membrane, which allows a folding mobility, thus affording a lodgment for extraneous material. This space becomes swollen early in the disease and with one or both of the arytenoid bodies gives rise to the typical "club shaped" appearance of the arytenoids in this disease. This swelling usually extends to the glottis giving it the characteristic "turban" form. This swollen tissue shortly breaks down into the well known and more easily recognized tubercular ulcer.

The one observation of the doctor as to nasal obstruction, while new, is without doubt well grounded and an entirely rational etiological factor; it is another argument in favor of advising suitable measures in all such cases to secure free and unobstructed nasal respiration.

Malignant Tumor of the Throat arises, more frequently than is generally supposed, from syphilitic cicatrices.

Nasal Obstruction, because of too narrow a nose, was relieved by widening the palatal arch.—*L. W. Dean, J. A. M. A., Nov. 26.*

New Test for Determining Absolute One-Sided Deafness. Norval H. Peirce places a tuning fork with a solid olive tip in the external meatus, and states that while the tuning fork is sounding the patient is unable to hear with that ear. The success of the method depends on the complete closure of the external meatus by the olive tip; a drawback to this method is that the tuning fork dies out so quickly.

Tuberculin injections have relieved optic neuritis.

Conjunctival Argyrosis. L. E. Schwartz injects into the conjunctival stroma, keeping as near the surface as possible, potassium iodide in saturated, half saturated, or thirty per cent. solutions—the strength depending upon the reaction to each treatment. Three to four minims slowly, possibly in two places. Repeat (in two or three weeks) at other points when all irritation has subsided. It is more or less painful and difficult. Decolorization is progressive, slow and certain.

HEMAPHILIA CAUSING DEATH AFTER TONSIL-LECTOMY.

H. S. WILLARD, M. D.,

Paterson, N. J.

IN reporting the following case there is little or nothing to be gained by a recital of the incident, but there were some features of the case that were decidedly perplexing and which I have not been able to explain or understand. I operated upon the little girl, age 6, a well nourished robust little blonde, pink cheeked and plump, with every evidence of perfect health and circulation, for the removal of the right tonsil which was quite large and a mass of adenoids. The operation was advised as a prophylactic measure, as the vulva and the arch were not developing normally on account of the slight obstruction and the mouth breathing dependent upon it. There had never been any inflammation of the tonsils, nor any signs of aural or Eustachian involvement. The nasal mucous membrane was in good condition and there was no hypertrophy of the turbinals.

The tonsil was removed with the guillotine, the excision being very simple as there were no adhesions to be broken and consequently neither pillar was in any way damaged. The Gradle adenotome and Hartman curette, supplemented by the finger, cleansed out the vault of all adenoid tissue. Hemorrhage at the time was unusually slight and was so remarked upon by those present. Upon leaving the table the patient was nearly conscious, pulse full and regular and there was no evidence of the slightest bleeding. The next two hours were devoid of anything out of the ordinary. The child was somewhat restless and vomited once a small amount of mucus and blood clots. Pulse and respiration were O. K.

At four o'clock, two hours after returning from the operating room, the patient's pulse became rapid and thready very suddenly and she expelled from the stomach more than a teaspoonful of dark brown blood and mucus. From then on at intervals of fifteen or twenty minutes the vomiting continued until the last time at about midnight, after which, until death came twelve hours later, there was no bleeding or vomiting. During this time several careful inspections were made

of the throat and every effort made to see whence the blood came. The posterior wall of the pharynx, the cut stump of the tonsil, the pillars and velum, and in fact all of the tissue adjacent were swollen and so ecchymotic as to be almost black, but not a drop of blood could be detected, nor during the entire time of hemorrhage did the patient spit out a drop of red blood, though every effort was made to cause her to in the hope of locating the point at fault. She was caused to lie on her face with the head low for several minutes at a time, in spite of which no blood came from either throat or nose, nor was it possible to detect any upon inspection. But every fifteen or twenty minutes regularly, up came a quantity of coffee colored blood from the stomach. At midnight, eight hours after the first signs of hemorrhage the flow ceased, leaving the patient practically exsanguinated, white as snow and with a weak, rapid thready pulse. From then the condition steadily improved and when I left the patient at 5 a. m. the pulse was much fuller, regular, and every indication of recovery was present if the child could stand the severe shock. At 11 o'clock a. m. with almost no warning the child gasped and was dead.

I have so far said nothing as to treatment for, needless to say, everything possible was done locally and internally to stop the frightful loss of blood, the family physician two consultants, the house surgeon and myself working continuously on the case. The only thing not done was venous transfusion, and one reason for not doing so was that after the hemorrhage ceased the child was so restless and fretful it was deemed best to postpone this for a few hours; preparations were all made and we were about to do so when the end came.

I have been utterly unable to learn or read of any case presenting such a complexity of confusing symptoms as this.

First: A perfectly simple operation, followed by slight bleeding which stopped of itself at once. This blood was of usual color and clotted freely.

Secondly: The apparent absence of any bleeding point on the cut surfaces, all of the blood being expelled from the stomach.

Third: The peculiar coffee-like color of the fluid, and lastly the absolute lack of fibrin in this fluid as evidenced by the fact that after standing eight hours the solution was devoid of any semblance of a clot.

Afterwards in looking into the history of the parents, I found that the mother was a severe bleeder, always having a very serious hemor-

rhage at childbirth and bleeding freely from every little cut or abrasion. So that I am convinced we had to deal with a case of hemaphillia of an unusual type; if not, what was the cause and how can the condition be explained pathologically?

Secondary hemorrhage following tonsillotomy is not common, on the other hand it is not nearly so unusual as might be thought, the literature upon the subject being quite voluminous, but ordinarily the bleeding point is easily located and the cases are few where pressure has not been sufficient to stop it.

DISCUSSION.

RICHARD H. STREET: I am very happy to say that I can offer nothing from personal experience as, so far, I have been fortunate enough to miss the hemaphiliacs. However it is a condition of grave importance and one for which we should have at our finger tips every known method of treatment.

Perhaps it would not be amiss to briefly run over the treatment of postoperative hemorrhage in this region, as it seems to be the only phase of the subject that Dr. Willard has omitted in his valuable paper.

For purposes of protection to the surgeon, as well as to the patient, a careful history should be taken, as hemaphilia is intensely hereditary. It is not sufficient that one generation should show absence of "bleeders" as it has been proven that the females in a family may be "carriers" while they show no tendency to excessive bleeding themselves. Males are much more prone to hemaphilia, the proportion being thirteen to one. (Hubbard.) The blood should be examined as to its coagulability. Women should not be operated upon during the menstrual period.

Briefly, the hemorrhage itself should be treated as follows: Patient should be placed in a semirecumbent position. Point of bleeding located. All clots removed. Firm pressure to bleeding surface. Ice pack around neck and to back of head. Hypodermic injections of morphine to retard the heart's action. Normal saline solution per rectum or by subcutaneous injection. Lactate of calcium per rectum, 30 to 90 grains daily. Gelatin may be administered with the normal salt solution or with milk and beef extract. Many advise applications of adrenalin chloride. But my experience has taught me that while adrenalin is a very valuable drug in preventing hemorrhage it is almost useless in controlling anything but simple oozing.

I have not attempted to add anything new to the technique of hemorrhage control, but merely to refresh your minds upon this most important subject.

Litten says that "hemaphilia is not a pathological process but a permanent condition."

I wish to thank Dr. Willard for bringing this vital subject to our notice. Most of us are not prone to publish our fatal cases. The doctor should be congratulated upon his courage.

Goiter, Exophthalmic. ETIOLOGY.—Acute rheumatism occupies an important place among infections which lead to development of Graves's disease.—*Souques*.

TREATMENT.—Previous to operative intervention: 1. Rest cure interrupted by systematic exercises. 2. Sojourn at some resort having elevation of 1,000 to 1,500 meters (3,300 to 4,900 feet). 3. Diet poor in albumen and fats. 4. Cool baths and lotions. 5. Internally, phosphorus, arsenic, and iron. Avoid measures producing rise in blood pressure, as well as active diuretics.—*A. Kocher*.

Case under observation for one year showed continued improvement under treatment with dried powdered thymus, 30 to 120 grains three or four times daily.—*Gwyer*.

Intravenous injections of iodine and arsenic recommended. Two cubic centimeters (32 minims) of following solution to be injected repeatedly: Atoxyl, 1 gram (16 grains); iodide of sodium, 4 grams (64 grains); distilled water, 20 c.c. (5 drams).—*F. Mendel*.

Most effective treatment is to excise largest lobe of thyroid and later apply x-rays to smaller one. Patients with goiters of moderate size usually improved considerably by x-ray treatment alone. Exposures last five minutes, three minutes from front and one minute on each side of gland in large goiters; from front only in small goiters. Frequent intermissions made where tachycardia troublesome. Exposure every other day until slight reaction of skin; stop for a week, then resume, etc. After improvement manifest, expose once a week, unless severe reactive symptoms present. Meanwhile give also Roncigno iron-arsenic water, in tablespoonful doses t. i. d.—*Beck*.

Neutral hydrobromide of quinine gave good results in large series of cases. Given in 5 grain capsules to limit of endurance—3 or 4 capsules a day. Continue until all subjective symptoms have disappeared, then cut down dose even to 2 or 3 capsules a week, cautioning patient to resume former dosage at once if any symptoms reappear.—*Jackson and Eastman*.—*Mo. Cycl.*

THE BEST METHODS FOR TREATING FAUCIAL TONSIL HYPERTROPHIES.

JOHN B. GARRISON, M. D.,

New York.

THE faucial tonsils have been long recognized as being likely subjects for pathologic change and the methods for the cure of such conditions have been many. At one end of the line has the contention come that no mechanical means of any kind should be employed and at the other we find adherents of the idea that nothing short of complete enucleation of tonsils which are visible should be thought of. Between these two views we find a happy medium, and conservatism will usually teach us to use our judgment in the selection of the method best suited to our case. We must individualize if we are to give our patients the best results. There are few cases which would not be better to have a well indicated remedy administered for a time before operation if that could be accomplished, perhaps, but local methods must be resorted to speedily many times to remove aggravating conditions and to hasten the return of a patient to usefulness, and we must serve the public.

In this paper, which I will endeavor to make as brief as practicable, I shall endeavor to refer to the various methods of treatment which are in common use and will not take up any of your time in going into the etiology of tonsilar hypertrophies, for you can read that up at your leisure.

Tonsilotomy held for a long time the most prominent place in the surgical procedures for the removal of hypertrophies of the faucial tonsils, and slices of tonsilar tissue of various thickness were removed according to the ideas of the operator. After a little more study had been given to the subject it began to be seen that there were cases which were not benefited to any marked extent by the use of the tonsillotome, and it was noticed that a separation of the tonsils from the lateral pillars of the fauces resulted in freeing a mass of tonsil which could then be removed. Instruments were fashioned for the facilitation of the work and it was marked as a step in advance.

Knives with short blades at various angles from the handle now

make it more easy to divide the adhesive bands which sometimes bind the tonsil to the pillars; scissors are made to assist in the work, and semisharp and dull separators now fill the specialist's outfit of instruments for tonsil surgery. All of them have their place, and yet it is surprising what good work can be done with a very limited number of instruments, if one will only become accustomed to them, which only long practice can give.

Tonsillotomes are of various makes, but it is essential that at least two sizes be at hand to select according to the size of the tonsil to be removed. They should be kept sharp and, if they are not made with a pronged arrangement to catch the tonsil and elevate it a trifle when the cut is made, it is best to have an assistant use a tenaculum of some sort to raise the tonsil from its bed after the tonsillotome is in place, as that will make it possible to remove more of the tissue than otherwise. In my opinion, tonsillotomy is best suited to the majority of children between the ages of two and twelve. There are exceptions to be sure, but I have seen but few cases from the many hundreds I have operated on in this manner who have needed after treatment for tonsillar conditions. I frequently find it necessary to use the tonsil knife or the tonsil punch, which serves to remove sufficient of the deeper portions to remove the pressure, but I do not often think it necessary to enucleate in these young children.

Some tonsils have their largest measurement anteroposteriorly, causing the pillars to be pressed widely apart, and in these cases it is very necessary that tension be completely relieved. If the mass that is removed by the tonsillotome does not accomplish this, the tonsil punch is a valuable instrument to use; these are found in pairs, right and left.

The electrocautery was a few years ago in the hands of almost every throat surgeon, and in many instances the general practitioner also, for the treatment seemed so simple that it was thought nothing else was necessary but to plunge the heated point of the electrode into the hypertrophy and the work was done. It was simply overdone, and that valuable method is somewhat in disgrace at present. As a matter of fact there are many cases where a few treatments with this agent will be of great assistance. In the hypertrophies where the tonsil is only moderately large and the follicular openings plainly marked, rapid shrinking may be sometimes obtained by introducing the point of the electrode into the openings cold, and then heating it to a cherry heat for a few seconds, removing it before it is cold, to prevent its ad-

hesion. These treatments may be made as soon again as all evidence of inflammatory action is past, but never under a week, if the best results are to be expected.

Fulguration is a more effective form of electrotherapeutics and is available for those who possess some form of high frequency current. Some operators claim to be able to reduce rapidly all tonsillar hypertrophies; but no doubt other forms of treatment will do better in some instances. The tonsil should be thoroly dried before the current is turned on and a spark from $1/16$ to $1/8$ of an inch in length is the usual strength.

Chemical caustics are always within the reach of those who are not favored with any other form of treatment and are more or less effective. They should all be used with great caution, for it is not easy to limit their action to the small area chosen. No one should attempt to use any of them until he has seen a careful use of them made.

Enucleation is advisable in many cases. Where there is evidence of an infected condition it should be done at once. In cases where there is a history of frequently repeated attacks of quinsy, tonsillectomy is to be advised. As to the technique of the operation, it can be made almost bloodless if the separations are made with blunt instruments for the greater part. A hemostat should be used near the base to crush the blood vessels before they are severed and wherever the least bleeding is noticed.

Homœopathic prescribing is always applicable, but the writer realizes that the cases which come under the care of the specialist are not usually placed there for him to practice upon medically; that is the province of the family physician. If perhaps the greatest number of cases which finally reach the specialist could have been controlled and appropriately treated with the similar remedy, a perfect cure might have been made. There is no remedy specific to the cure of tonsillar hypertrophies, any more than there is to any other disease, but we have the patient before us and, if we look closely enough, we are almost sure to find some unusual and peculiar symptoms exhibiting themselves; while we may not see any connection between these and the enlarged tonsils, it is surely within the law if a cure should come. Then too we can sometimes use our remedies with benefit while we are giving local treatments and we have as our guides the location, sensation and conditions of aggravation. If we use these to select our remedy to the best of our ability, we will surely demonstrate to our patrons that

we have something with us that makes us better than the allopathist. Let me ask you to be always a homœopathist as well as a rhinologist, an oculist, laryngologist or aurist, for the combination is a good one.

One hint in closing, if I may, as to the administration of remedies. A long experience has convinced me that I have many times spoiled my case by giving a well chosen remedy too frequently. An aggravation is often caused in this way; it may not be very marked, but it will be sufficient to show you that your patient is not doing well under the remedy you are using and you choose another, when it is more than likely that if you merely suspended the remedy altogether success would have crowned your efforts. I now usually give the remedy for one day (or one dose), and follow it up with placebo of some kind; for the average patient wants to be taking something and unless you have their absolute confidence it is not well to ask them to do without.

616 Madison Avenue.

Larynx, Fracture of. TREATMENT.—Cases divided into three groups according to indications for tracheotomy: 1. Mild cases; fracture often incomplete and detected only on careful palpation. Keep patient under close watch. 2. Serious cases; marked dyspnœa, sometimes hemoptysis. Immediate tracheotomy indicated. 3. Cases of intermediate severity. Preventive tracheotomy should be practiced wherever patient cannot be kept constantly under watch.

Hemorrhages Into the Vitreous Body, Fibrolysin in the Treatment of.—All measures, tried during two months, had failed. Two cubic centimeters of 10 per cent. fibrolysin were injected into the gluteal muscles, with the result that two days later vision was greatly improved. Repeated injections were given, with continued betterment. Later, a second hemorrhage took place, but the visual acuity was again favorably influenced by fibrolysin. The age and general condition of the patient must be taken into consideration in using this form of treatment. In young patients it is quite safe, but in the aged caution is necessary. The efficacy of the remedy appears to be proportionate to the promptness with which treatment is begun after the hemorrhage. Thilliez (*Journal des sciences médicales de Lille*, September 3, 1910).

THE SPECIALIST AND THE INTERNAL REMEDY.

A. S. HANSEN, M. D.,

Cedar Falls, Iowa.

FROM time immemorial there have been specialists in the practice of medicine—a good example is found among the ancient Egyptians—and if I am not mistaken specialism has at times developed to such an extent that it has become its own bane, and then become a lost art. We are living in a time of intense specializing and are confronted by the same danger. This has reference to our specialty also, even with the fact in mind that there is no clear definition, or rather agreement, as to what constitutes an Eye, Ear, Nose and Throat Specialist, whether any one without several years of general practice or by passing a special examination can claim the name of specialist.

We can all agree that specialism is necessary in the practice of medicine, and should be careful to work and build so that our craft shall not in the future become a useless one. Right here is where I claim that we as specialists must try to keep in touch with general medicine, and especially develop the great art of prescribing the internal remedy.

I know that possibly a large majority of the profession among the specialists claim that when it comes to the prescribing of remedies the patient should be sent back to the general practitioner, and this possibly for two reasons: first, because financially it is the best policy to do so, as we might otherwise hurt the feelings of the family doctor, and, second, because the specialist is merely a craftsman and knows very little about internal medication.

In regard to point 1, I claim more freedom for the specialist to prescribe for general conditions. We are allowing the general practitioner and surgeon to do more and more of special work—they remove adenoids and tonsils, in a way at least; correct nasal defects, when they can; prescribe lenses, etc. When they “get up against it” the case is referred to the specialist, giving him hard work, and for cases that cannot always be successfully treated—the specialist gets the blame.

I think a good many of us are “free lances” as specialists and not depending on very many of the profession for our practice: I, as one of them, crave an open field. But even if we feel ourselves tied down

to the family physician we can do no harm by prescribing for general conditions manifested possibly in some special organ. The patient is sent to us for some refractive error, for instance, because the family physician cannot reach the case. We send it back saying that there is "nothing doing" in our line. I am sure that he, after having referred the case to the specialist, will be more satisfied if we do something even if we do handle the case as a general practitioner, possibly with a little more knowledge of the art of prescribing.

As to point 2, the art of prescribing the internal remedy must not become a lost art amongst the specialists, as we absolutely cannot treat a great number of cases without taking the case from our standpoint; and if we do not frequently prescribe, how can we develop the art?

As to the internal remedy I also crave an open field. I believe in the homœopathic remedy, but there are others and we must not debar ourselves from the use of them. Hahnemann was open to new ideas or else his fine system of practice would never have been used all over the world, but it was certainly not the intention to close the chapter with Hahnemann's death, make a kind of religion or dogmatism out of the whole business, shut down the lid, and let every graduate from any homœopathic school sit on it and hold it down.

I am sure that Hahnemann only started the beginning of a great reform in therapeutics, and it is a question in my mind whether the formula *similia*, etc., gives the full explanation of our mode of prescribing medicines. Now with the serums, vaccines, organotherapy, etc., a new field has been opened. In all of this the explanation is possibly found in the fact that these remedies help the system generally to produce antibodies, and Hahnemann's law will possibly find its best explanation in the possible fact that this is the only scientific way to prescribe drugs which will quickly induce a production of antibodies. Then, after all, *similia* will not be found to be far from the scientific line of reasoning, as the antibody really is a similar and yet a different body from the antagonizing. Hahnemann was a prophet, as such he has not been well received on his own continent, Europe.

As specialists we surely have a great many ways of finding and prescribing the internal remedy; let us use them, do our work—"hew to the mark, let the chips fall where they may"—and then the use of the internal remedy shall not be a lost art amongst specialists, and our place in nations shall never stand empty.

DISCUSSION.

M. A. BARNDT: Dr. Hansen's timely paper is of special value just now as there seems to be considerable controversy at the present time as to the ability and advisability of the specialist doing any internal prescribing or referring the patient back to the general practitioner for the internal remedy—thus making the specialist merely a “mechanical man.” This plan may be suitable in some instances but in the majority of cases the patient is not willing to pay the specialist for doing the mechanical work and then go back to the general man for his prescription, as they seriously object to the double fee and time spent in securing the services of both.

In the majority of cases the specialists of today are men that have had some experience in general practice before entering their especial field, so in addition to general medical training and experience in general practice they have added a special knowledge of the specialty they intend to follow—ours being the eye, ear, nose and throat. In order to be broad minded and not to be narrowed by our specialty so that we cannot see anything beyond the eye, ear, nose and throat and believe that thoro correction or treatment of these organs is all that is necessary to put the whole body on a healthy basis, we must not lose sight of the fact that reflexes of other organs will cause disturbances of the eye, ear, nose and throat and these reflexes must be corrected before relief can be obtained; hence it is very essential that we keep in touch with general medicines in order to recognize these reflexes and other disturbing elements of the body before we can successfully treat the disease of our own specialty.

I believe the field of the specialist is to assist the general practitioner in every way possible in order to cure his patient, and a conscientious, honest physician will so regard the specialist and when he sends a case to him he expects the specialist in turn should not destroy the confidence the patient has in their family physician, but should encourage their confidence.

I know of physicians who do not hesitate to send their patients to a specialist as soon as they find that the patient is not doing well in their hands, and in turn the patients say we can trust our physician, as he will not take any chances or do any experimenting.

I agree with Dr. Hansen that we should have complete liberty in prescribing the internal remedy and to develop this art of our specialty; in order to do this we must prescribe for the general condition of the patient and take the totality of the symptoms into consideration as well as the local manifestation.

The art of prescribing the homœopathic remedy should be developed to its greatest perfection, as it is along this line that we claim superiority to the dominant school of medicine. To neglect this branch of our specialty will simply put us on a par with the mechanical men;

the pendulum has been swinging toward surgical and operative measures in all cases and internal medication has been neglected, but today there is a strong reaction and the tendency is for the pendulum to swing back again in favor of internal medication in the various methods outlined in Dr. Hansen's paper. It therefore behooves us as homœopathic specialists not to neglect this important branch of our art, unless we wish the members of the dominant school to outstrip us on this our own vaunted field of work, "we must use the internal remedy at every opportunity to elevate our profession and benefit our patients."

Carsickness has been cured by correcting astigmia.

Acrophobia—fear on being at great height—if aroused by looking down from a height (or into a depth) suggests investigating whether the patient has hyperphoria.

Differential Blood Count Test for Suppuration Anywhere in the Body.—The septic factor is—a marked increase (80 per cent. or 90 per cent.) of the polynuclear leucocytes together with the eosinophiles very few or absent.

Typhoid fever is the only condition in which, at the end of the first week, the differential count (as well as the number of leucocytes) is normal.

Adrenalin chloride solution, 1:1000, when faintly pink has lost 5 per cent. of its efficiency, but is still good when light yellow it has lost 10 per cent., but may still be used; when dark brown (like old sherry or strong tea) with a heavy, brown sediment, it is exhausted and should be thrown away. With proper care adrenalin chloride solution 1:1000 should keep three years.

Roentgen Ray Dermatitis.—*The Journal of Advanced Therapeutics*, in its January editorial, says that when there is the slightest indication of a possible unfavorable dermatitis from Roentgen ray exposure it may be arrested by radiant light and heat, the vacuum tube, and effluve discharges, from high potential sources.

"These agents are capable of producing effects directly opposed to the inhibitory effects of the Roentgen ray. They are not to be used in connection with it, therapeutically, except under unusual conditions." Following the usual treatment, as above, they are promptly efficacious; they are not applicable to keratoses, inactive or atrophied conditions following years' exposures—these are apt to be aggravated.

Apply once or even twice daily (in severe cases) to cause marked hyperemia, until the dermatitis subsides, or as prophylaxis after several diagnostic exposures.

SOCIETIES.

THE EIGHTH QUINQUENNIAL INTERNATIONAL HOMŒOPATHIC CONGRESS.

Once more the Institute membership and friends of homœopathy are notified that the Eighth Quinquennial International Homœopathic Congress is to be held in London during the week of July 17-22, 1911, inclusive. This date has been decided upon because it has been found convenient for our continental and British colleagues; it will be convenient also for the members of the Institute who wish to do their duty by that organization and attend its meeting at Narragansett Pier and have time enough intervening to reach London.

The Institute will meet during the week of June 25th to July 1st. This will leave a period of sixteen days before the Congress opens. No plea here will be made on behalf of the Institute, for this is a matter quite by itself. But a most earnest plea is hereby made on behalf of the International Congress. Its international character should be emphasized and this can be done only by the wide and hearty co-operation of homœopathic physicians in all parts of the world. In proportion to their number the homœopathic physicians of the United States in attendance should far outnumber physicians from other countries. Therefore for the credit of homœopathy, for the reputation of the Institute, a large American delegation should plan to attend the Congress.

It is impossible at this time to present even an outline of the program, but the subjects to be discussed are those which pertain particularly to—

- I. The Principles, Philosophy and Practice of Homœopathy.
- II. To Drug Pathogenesy.
- III. To Homœopathic Therapeutics.
- IV. To the Status of Homœopathy throughout the world and to Homœopathic Propagandism.
- V. The scope of the Congress is not to be narrowed in any way and essays will be welcomed on the practical aspects of subjects of general interest, like radium, x-ray, vaccines and sera, as well as from all specialties in the art of healing. The Congress will be divided into sections as was the case at the meeting in Atlantic City, in 1906, with a president for each section.

It has been decided that papers dealing with subjects of general interest should not exceed twenty minutes in delivery, and that papers dealing with the specialties are not to exceed fifteen minutes. In the discussions the length of speeches is to be left to the chairman and the sense of the meeting. It is expected that essays shall be typewritten and that copies shall be in the hands of the permanent secretary, Dr. John H. Clarke, 8 Bolton Street, Piccadilly, W., London, not later than May 31, 1911.

Details concerning the meeting itself will be furnished as soon as plans are formulated by the committees now arranging for the Congress. A matter of great practical importance which must be considered at an early date by those who expect to attend the Congress is that of transit. How shall we on this side of the Atlantic get over to London? It is too well known to need comment that already Americans who are planning to spend part of the summer in Europe are engaging their staterooms and negotiating for their tickets, for steamship accommodations are decidedly limited and in order to get any accommodations reservations must be made early. The Institute's committee on the Congress has been investigating this matter and is able to report that there are several steamers booked for sailing between the first and the sixth of July. Since comparatively few Americans would care to take so long a trip merely for the sake of attending the Congress, those who do go are likely to make the Congress simply a part of their summer vacation. For the benefit of those who may desire to see something of Great Britain and the continent and to do so in a relatively inexpensive manner, the Institute's committee has secured itineraries which embrace a few days in either Ireland or Scotland prior to the Congress, and trips of varying extent and duration on the continent after the meeting. These trips are under the direction of Thomas Cook & Son, and full details concerning them can be obtained on applying to any member of the Institute's committee.

Other and very attractive tours have been arranged for by the Raymond & Whitcomb Company. Circulars concerning these tours occupying from thirty-four to fifty-seven days and ranging from \$340 to \$580, everything included, have been prepared and distributed by the Raymond & Whitcomb Company, and already are in the hands of the Institute members. Considering the very pleasant and enjoyable experiences the Institute members had last summer during their trip to the Pacific coast, it has been deemed wise to give the stamp of ap-

proval to the itineraries just referred to. With a little thought in advance sufficient co-operation may be secured to form congenial groups of ten or twenty or more who, under special guides, can spend their time pleasantly, restfully and profitably and to the best advantage in every way.

It will be possible to sail from New York on Saturday, July 1st; from Boston on Monday, July 3d; or from Montreal on Thursday, July 6th. Those who wish to go comfortably and inexpensively can secure passage on the Canadian Pacific Steamship "Lake Champlain" which is to sail from Montreal on July 6th. This steamer furnishes one class accommodations at the low rate of about \$50. The return trip may be arranged for on the "Empress of Ireland" leaving Liverpool on August 11th at about \$80 to \$100. Return passages on other line and at other dates can be secured, but the making of plans must not be too long delayed. For a trip combining complete relaxation, comfort and real rest we can recommend the thoroly enjoyable, picturesque sail down the majestic and beautiful St. Lawrence from Montreal, by the fortified heights of Old Quebec with its old world Frontenac and Dufferin Terrace, thru the Gulf of St. Lawrence, via the Straits of Belle Isle or by the southern coast of Newfoundland, with only four days intervening to the north coast of Ireland, by the Isle of Man up the famous Mersey to Liverpool. Without exaggeration this may be called an ideal trip for tired people.

In order to facilitate the making of necessary arrangements we urge all those who plan to attend the Congress independently or who wish to join any of the parties which may be formed for any of the tours to signify their intentions at the earliest possible date. Members of the committee will gladly give any information they possess and render any assistance in their power to those who desire to attend the Congress and at the same time derive the pleasures and benefits to be obtained from a trip abroad.

J. P. SUTHERLAND, M. D., *Chairman,*

295 Commonwealth Ave., Boston;

HILLS COLE, M. D., 1748 Broadway, New York City;

A. E. AUSTIN, M. D., 8 East 58th St., New York City;

G. W. ROBERTS, M. D., 170 West 59th St., New York City;

JAMES C. WOOD, M. D., 818 Rose Bldg., Cleveland, O.,

Committee.

SOUTHERN HOMŒOPATHIC MEDICAL ASSOCIATION.

The twenty-seventh annual session of this society held in the Windsor Hotel, Jacksonville, Florida, December 6, 7 and 8, was one of the most successful in its history. Over forty members were present. Among those from distant territory were the following doctors: Gaius J. Jones, President of the American Institute of Homœopathy; H. R. Arndt, Field Secretary of the Institute; W. E. Nichols, First Vice-President of the Institute, from Pasadena, California; H. E. Spalding, of Boston, Massachusetts; R. F. Rabe and John E. Wilson, of New York City; W. A. Dewey, of Ann Arbor, Michigan; Geo. W. MacKenzie, of Philadelphia; Lewis P. Crutcher, of Kansas City, and W. E. Reily, of Fulton, Missouri.

President Boies delivered an address eloquent with good feeling and appealed for a more thorough organization and hearty co-operation in the South. It goes without saying that Secretary John T. Crebbin was a very busy man. Twenty-one new members were elected.

The following officers were elected for the ensuing year: President, John T. Crebbin, New Orleans, La.; First Vice-President, R. A. Hicks, Fort Smith, Ark.; Second Vice-President, F. A. Reed, Eustis, Florida; Treasurer, H. W. Johnson, Knoxville, Tenn.; Secretary, Lee Norman, Louisville, Ky.

The social features were a luncheon at Windsor Hotel, given by the Committee of Arrangements. On the evening of December the eighth a reception was tendered the members at the residence of Dr. H. R. Stout, where a cordial greeting awaited them.

The next meeting of the Association will be held in St. Louis, October 18, 19 and 20, 1911.

LEE NORMAN, *Secretary*,
Louisville, Ky.

ABSTRACTS.

The Jugular Bulb has been known to produce a bulging in the posterior lower wall of the tympanum, from which it was separated by an extremely thin layer of bone. The bulb of the jugular vein may vary from a slight bend to a bulb which extends to the upper margin of the petrous bone, encroaching upon the meatus acusticus internus and the aqueductus vestibuli. The bulb may be involved from necrosis of the floor of the tympanum, or by veins from the tympanum, or from a parietal lateral sinus thrombosis.

Labyrinthine Complications of Middle Ear Suppuration. There must be kept in mind the prognosis concerning the hearing and the prognosis concerning the life of the patient.

In serous labyrinthitis the life of the patient will rarely be jeopardized, nor will the hearing. Much more dangerous, in fact the most dangerous of all forms of labyrinthitis, is the labyrinthitis in connection with acute otitis media. The so-called acute panotitis usually terminates fatally, as the meninges are invaded almost simultaneously. An operation in these rare cases can scarcely ever be premature, provided the diagnosis of labyrinthitis is certain, since the process if left to itself is liable to end fatally after a very few days. Scarlet fever and diphtheria otitis, complicated with labyrinthitis, progress more slowly, owing to the poor general health of the patient, and therefore the life of the patient is often spared, tho the hearing of the ear involved is destroyed.

Prognosis of labyrinthitis in consequence of cholesteatoma of the middle ear: "Pathology teaches us that the suppurative inflammation of the labyrinth has a pronounced tendency to heal, provided life is not extinguished by other complications. After the acute stage has passed the exudations become organized and form a scar."—Karl Grunberg. The final result as to hearing depends on the extension of the destruction and the extremely varying power of restitution. Georke in connection with a case of perforation of a cholesteatoma thru the annular ligament, is more sanguine: "The number of cases of labyrinthitis which heal in this way cannot be estimated, hardly can they be suspected, if we consider how many ears of deaf mutes show similar changes. It must be repeated over and over again that the most serious forms of labyrinthitis show attempts at recovery which—and this is important—really give the protection which we expect of them."

In view of these quotations taken from some of the most modern writers, the large death rate in connection with operations on the labyrinth is rather surprising. Many lives have been sacrificed on account of the lack of knowledge of pathology, lack of experience on the

cadaver, and lack of clinical experience. Recognizing this fact it is evident that operations on the labyrinth ought to be performed only by qualified operators. This restriction must be extended beyond the labyrinth operations proper, as it is beyond question that many a death after a simple mastoid operation finds its explanation in the curetting of a few granulations on the medial wall of the antrum, aditus or middle ear. These granulations often cover a fistula in the labyrinth and their removal opens the avenue for infection of the whole labyrinth and the meninges. Trained assistance also is important, since an incompetent handling of a retractor may, by luxating the stapes, lead to the same consequences.

Pathology has shown that nature is able to cope with a suppuration of the labyrinth, provided she has sufficient time to throw out her safeguards.—*J. A. M. A.*, Oct. 8, 1910.

Primary Thrombosis of the Jugular Bulb Complicated by an Extension of an Abscess in the Peritonsillar Region. A girl aged 23; history of fluctuating temperature, with chills, extending over four weeks. No ear symptoms complained of, but examination discovered a marginal opening in the upper posterior quadrant and a few small granulations moistened with a drop of fetid secretion. The variation in the leucocyte count in three days was from 9,700 to 27,700. A cholesteatoma was removed from the attic and antrum. The lateral sinus was freely exposed; it showed no external alterations and was filled with fluid blood. On compression above it did not refill. The jugular vein was ligated and with a flat chisel a layer of bone was removed along the anterior wall of the sinus, keeping internal to the facial canal until the jugular bulb was reached. Fully a tablespoonful of very fetid pus escaped; the pus showed bacilli resembling the colon bacillus. The following day she complained of a foreign body in the throat, when an extensive peritonsillar abscess was found bulging into the pharynx from the same side as the ear troubles; the pus had the same fetid odor and the colon bacillus was also found here.—*Shambaugh, J. of Oph. and Oto-Lar.*, Dec.

The proper management of cases of **thrombosis of the jugular bulb** is not as easy a problem as the management of cases of lateral sinus thrombosis. The operation for converting the bulb into an open channel is not warranted for every case of bulbar thrombosis, because the operation itself is a severe one and many cases of jugular bulb thrombosis recover without this operation.

1. **The operation** for the exposure and clearing out of the thrombus from the jugular bulb should be undertaken at the time of the primary opening of the lateral sinus—

(a) When the case is clearly one of pyemia of otic origin and where after ligation of the jugular in the neck and the opening of the lateral sinus the latter is found to be empty, so that the diagnosis of primary thrombosis of the jugular bulb is assured. Here the bulb

should be opened, provided the thrombus cannot be dislodged by non-operative means.

(b) When in cases of otic pyemia a suppurating thrombus extends from the lateral sinus into the bulb, or when in cases of thrombosis of the lateral sinus and bulb the removal of diseased bone requires the exposure of the bulb, this should be opened and drained.

2. The operation for the exposure of the thrombus in the bulb as a part of the primary operation on the lateral sinus thrombosis is contra-indicated in cases where the extension into the bulb does not present evidence of softening, excepting some cases presenting severe symptoms of general sepsis. The subsequent management of such a case when the thrombus is left standing may be indicated as follows:

(a) Should the septic temperature that necessitated the primary operation in the lateral sinus disappear after the sinus has been opened, no subsequent operation on the bulb is called for. Even tho it does suppurate later, it should be handled, in the absence of septic fever, by nonoperative measures only.

(b) Should there be a return of septic temperature after the sinus has been cleared out, the opening of the bulb by the method described above should be undertaken.

Norval Peirce believes the tendency to follow the course of the sigmoid sinus by chiseling upwards and forwards is dangerous; that we should proceed downwards and backwards, when there is little danger of wounding the facial or opening the labyrinth. In an inaccessible bulb he has succeeded in stitching the jugular to the skin. After two days the stitches are removed and the bulb is irrigated from below. In eleven successful cases of thrombosis involving the bulb, only five bulbs were exposed by the radical method; in the others irrigation from below was carried out.—*J. of Oph. and Oto-Lar.*, Dec., 1910.

Ehrlich's 606 in Ophthalmology—dioxydiamidoarsenobenzol. The consensus of opinion of those who have employed this is that it may be considered free from danger to the eye. Prof. Ehrlich, October 25, 1910, stated that 606 is "without danger to the eye, and with the exception of optic atrophy is indicated in syphilitic affections of this organ."

Few cases of ocular disease treated by arsenobenzol have as yet been reported. Double optic neuritis and incipient tabes, slight improvement in the ocular condition and some increase in vision. Iridochoroiditis and nodular syphilide, marked improvement in both the skin and eye condition. Tabes with complete ptosis of the eyelid of sixteen months' duration, and which had resisted all treatment, "improved wonderfully."

A word of caution against its indiscriminate use: "We are dealing with a powerful agent. The average dose, 0.5 gram, contains about three grains of organic arsenic. Surely the introduction of this large

amount of arsenic into the patient's body should be done with the fullest possible realization of its importance and should not be undertaken in any light vein."—*N. Y. Med. Jour.*

The remedy seems to be safe and efficacious in syphilitic eye diseases, with the possible exception of optic nerve atrophy.—*Nance, J. of Oph. and Oto-Lar.*, Dec.

Eye Symptoms an Aid in Diagnosis of Organic and Functional Nervous Diseases. The relationship of the eye to certain visceral diseases and particularly to diseases of the nervous system is an important one. Failure of recognition of this truth may lead to erroneous diagnosis and consequently to wrongly directed therapeutics. The neurologist cannot dispense with the services of the ophthalmologist, neither can the latter form an opinion of his cases without the aid of the neurologist. The knowledge of eye changes is indispensable to every internist, not alone to the specialist in nervous diseases. In some cases the objective symptoms are so slight that an examination of the eyes will decide the diagnosis of the case. In other instances the eye changes are only corroborative of other findings in the body.—*Gordon, Mo. Cycl.*, Dec., 1910.

Cocain—How to Avoid Complications and unpleasant results. Using a 2 per cent. solution made with sterile water and freshly prepared each day before using.

Cocain hydrochloride easily undergoes decomposition and is easily affected by microbes, especially in solution; it is also easily decomposed by heat (over 180°), therefore the solution must never be boiled (lest the cocain be chemically broken up), but it must therefore be simply pasteurized (157° F.). If kept in a cool, dark place the solution may be kept for a week, but never longer than ten days in a room of ordinary temperature.

Secondly, pay strict attention to asepsis.

Third, because cocain is so readily decomposed and infected it should never be used within an infected area.

Fourth, to prevent the absorption of the cocain solution (in general surgery) an Esmarch constrictor (an ordinary rubber bandi catheter, etc.) should be used whenever possible; when the operation is completed, before applying the dressings, the wound should be made to bleed freely so that as much of the cocain as possible may exude with the blood, thus lessening the chances of subsequent edema, and also to wash away any infected material that might by chance have been introduced into the wound.

Many bad results have been attributed to cocain merely for the reason that they occurred after employing it.

The solution should be injected, as a rule, along the line of proposed incision, so far as possible. In infected areas it should be injected around the area of infection. If the infection is virulent the cocain

should be injected very far from the infected area. In general surgery the injection may be made absolutely painless by first spraying the point of the first entrance of the hypodermic needle with ethyl chloride. After the air is expelled from the hypodermic syringe, the needle should be introduced right beneath the epidermis as far along the proposed line of incision as possible, then the solution should be gradually expelled from the syringe into the skin, as the needle is being withdrawn. An area of edema (wheals) results from the injection; to introduce the next injection the needle should be introduced at the forward end of this wheal so that it may enter an already anesthetized area. Repeat so that the entire line of the proposed incision (except in special cases) shall be an area of edema. Deeper areas can be anesthetized later.

The operation should not begin for at least fifteen minutes after the injection is completed, and it is better to wait twenty or even thirty minutes; the anesthetic effect usually lasts from twenty-five minutes to an hour and a half, and in areas where an Esmarch bandage can be used it may last for several hours. If the operation is to be a prolonged one, more cocain may be injected as needed; the quantity used does not matter very much. I have used as much as one ounce of the solution in a single operation without any ill effect resulting. Usually 1 or 2 drams of the 2 per cent. solution are sufficient, while very seldom more than 3 drams are necessary.

During the operation it may be advisable by conversation to detract the nervous patient's mind.

Local anesthesia may be used in any patient regardless of the condition of the heart, lungs or kidneys, and may be used at any age. In children it may be used at such an early age as the patient is able to be under control and will not fear the introduction of the hypodermic needle. As a rule it is preferred to have one of the child's relatives in whom the child has perfect confidence take charge of him, so that the child may be under full mental control.—*Breakstone, Jour. of Oph. and Oto-Lar.*, Dec.

Atoxyl causes disturbed vision, going on to actual optic atrophy; a number of such cases have been reported.

BOOK REVIEWS.

LEUCORRHOEA and other varieties of Gynæcological Catarrh. A Treatise on the Catarrhal Affections of the Genital Canal of Women, their Medical and Surgical Treatment. By HOMER IRVIN OSTROM, M. D. 179 pages. Cloth, \$1.00. Postage, 6 cents. Philadelphia: Boericke & Tafel. 1910.

A comparison of this monograph with those of thirty years ago shows that while homœopathy is still the science of therapeutics its practitioners make homœopathic practice scientific medicine.

Instead of being content with publishing a repertory supplemented by clinical cases, Dr. Ostrom evinces the thoroness which characterizes him as a man and a surgeon by following the anatomy and physiology with a consideration of catarrh in general, the causes and classification of gynæcological catarrh with its local, operative, constitutional and medical treatment and thirty-nine pages of excellent therapeutic suggestions supplemented by a forty-two page repertory.

The impression given by running over the book is one of conciseness without the sacrifice of clearness or thoroness.

THE TESTIMONY OF THE CLINIC. By E. B. NASH, M. D., 209 pages, Cloth, \$1.50. Postage, 6 cents. Philadelphia: Boericke & Tafel. 1910.

This companion to "Leaders in Homœopathic Therapeutics" consists of 100 clinical cases covering 51 remedies reported by 25 different "physicians entitled to respectful hearing," the largest number, very properly, by Dr. Nash himself. It should be more valuable than the former book, but should have been arranged alphabetically.

We take exception to only one statement: "* * * the Similia Similibus Curantur of the master." Dr. McClelland showed us years ago that Hahnemann wrote *curentur* deliberately, knowing his Latin thoroly, and that Curantur was substituted by some early English homœopaths who thought, in their enthusiasm, to "go him one better."

The book is dedicated to physicians of all schools who are open to conviction.

Dr. Nash teaches catholicity in the matter of dose along the whole scale from the crude drug to the highest "potency." "The minimum dose," writes he, "is the dose, crude or potentized, capable of affecting the patient curatively without unnecessary aggravation."

The book is prefaced by a very fine portrait of Dr. Nash.

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EDITORIAL.

THE VENEREAL PERIL.

WHAT specialist, what physician, what thinking man or woman, is not stirred by the ravages he witnesses of gonorrhea and syphilis among the innocent and the ignorant, stirred to indignant pity that enlists him in the crusade against "the great black plague?"

Tempera mutantur et nos mutamos in illis; the dawn of the new day of sex-education is rapidly brightening. Things are being written and said which were impossible five years ago; societies, clubs and classes are forming, books and lectures upon this subject are increasing in number with remarkable swiftness, and papers are becoming more frequent in general as well as medical literature. While necessarily much of this is vague and impractical, it is quite possible to formulate a general concept of the needs of the situation.

The contagious sexual diseases and their consequences call for immediate attention. *Fiat lux*; yet we know that knowledge of the details of venereal infection will not suffice in itself to protect nor ensure avoidance of the danger.

Education is the watchword. Children should be taught sexual along with general hygiene. Long before puberty they should tactfully, naturally, in a matter of fact manner be taught the mysteries of birth and sexual functions by their parents, so that it will seem to them as if they "had always known it." One of the best books for this purpose that we have seen is "Four Epochs of Life," (Muncie) which we reviewed last November. This gives some nature stories which teach the propagation of species very easily and sweetly.

Of course parents must learn, be taught, this in order to teach their

children, and young (old also) people must be taught the nature and dangers of the venereal diseases. As such instruction permeates the community will it be possible to enact and enforce such legislation as is necessary to check the dissemination of the evil.

Medical supervision of prostitutes—which does not mean licensing in the sense of endorsement or approval, but only checking some of the dangers of an unavoidable evil—is surely coming; our task is to have it as efficient as possible with as few abuses as possible.

Another important legal step is to allow the physician under certain circumstances to acquaint the fiancée or wife of his patient with the venereal peril to which his patient insists upon exposing them.

Eight years ago the writer* ventured to “predict that before the twentieth century shall have expired Society will have adopted, as one way of protecting itself against the increase and the degeneration of the criminal class, a law providing for the castration and spaying of confirmed criminals.” A good step has been taken in this direction by Indiana, and other states, prescribing vasectomy for confirmed criminals. This however is not a safeguard against dissemination of contagious venereal diseases.

The writer now advocates, what he dared not voice in 1903, that men convicted of rape shall have the penis amputated! This will be thoroly effective, and deterrent. Any sentimentalist opposing this should be classed with the criminals who command his or her sympathies more than do the possible victims of such monsters.

The single standard of morals for both sexes is now conceded by practically all students of this subject; the old fallacy has been exploded that a young man “must sow his wild oats” before marriage.

Absolute sexual continence is not injurious to health; the ill effects occasionally attributed to it by some may well be ascribed to other causes. Vecki says: “that absolute sexual continence may cause non-contagious sexual disease is almost a negligible disadvantage; it is the best preventive against any contagious sexual disease.”

The physician who advises illicit sexual intercourse is a danger to the community; he should be expelled from his societies and lose his license to practice. Fortunately such advice is not so common in this country now as of yore.

*Presidential Address. Transactions Homœopathic Medical Society State of New York, 1903.

SYMPOSIUM.

It is proposed to revive a feature of this JOURNAL of about ten years ago which can be made interesting and valuable just and only in so far as co-operation can be secured.

Our readers are solicited to contribute by answering the questions as they are propounded—a topic will run thru as many issues as its interest calls for—and also by suggesting topics.

In April we hope to publish a number of brief contributions in reply to the following:

How young a child have you operated for deflected septum?

Upon what indications would you operate a young child for deflected nasal septum?

What considerations would lead you to decline or to defer such operation?

• THE USE OF ATROPIN IN THE EYES AS A THERAPEUTIC AGENT.

HERBERT DANA SCHENCK, B. S., M. D., O. ET A. CHIR.,

Brooklyn, New York.

THE necessity for the use of cycloplegics, of which it was generally agreed that the most complete is atropin, was discussed before this society in 1907. In the discussion of the paper Drs. Harold Wilson and William R. King took the ground that a cycloplegic is not necessary in every case, and indeed that some cases are better without than with the cycloplegic. Dr. Wilson brought out very clearly the fact that not all ametropes need correcting lenses, and that a varying degree of correction was possible with a relief of the symptoms of the patient. He also called attention to the aberration caused in some cases by the dilatation of the pupil and that the eye in the condition in which it was habitually used was the condition in which the correction ought to be made. He finally hit the problem straight upon the head when he said that fitting glasses was not only "an optical but a physiological problem."

I am more and more convinced that the contention of Drs. Wilson and King is correct, that we are dealing with a human being. Each case presents a separate problem, which must be settled distinctly on its merits and a cycloplegic used or not used, according to the individual case and not according to the refractive error present, whether that be large or small or whether there be latent hyperopia present or not present.

I have come more and more to realize the necessity of dealing with the individual case, and to pay closer attention to the subjective symptoms of the patient and less to the objective. Ophthalmology is a condition which results from a deviation from the normal standard and needs for its cure as much attention to detail and careful study as does the prescribing of a homœopathic remedy in any individual case. Those who have failed in prescribing remedies are those who have not schooled themselves in the practice of getting at the facts as presented by the patient after a careful and searching cross-examination, with a sifting of the facts which the patient presents. None of us

are so scientific and well balanced that we are able to put aside absolutely our own personal equation and not let it at times over-balance our judgment.

Dr. Alexander Duane concludes that it is impossible to estimate astigmatism to within .25 or .50 of a diopter without a cycloplegic, and that it is impossible to get the amount of latent hyperopia, all of which he claims must be corrected for the comfort of the patient. He further contends that it is equally as necessary or more so to use a cycloplegic in adults than in children.

The general contention of those who use cycloplegia in all their cases is that it gives more precise results and lessens the chances of error. All of them, however, agree that a certain amount of the total hyperopia found under the cycloplegic cannot be corrected, that this amount varies greatly in different individuals, and that there is no set rule for estimating the amount which can be corrected. A re-examination must be made after the effects of the cycloplegic have disappeared before the prescription is made.

Where an attempt is made to correct the latent hyperopia the discomfort and disgust of the patient often lead him either to seek a new correction from another man or to discard glasses altogether and get along with the discomforts that he had without them, which are frequently less than those of over-correcting lenses.

The question then resolves itself to: Is scientific accuracy in the matching of lenses to the exact refractive error absolutely necessary to the comfort of your patient? I contend that it is not, and that eyes should be tested with the muscles in full play and the ciliary muscle in action in order to promote the best use of all the muscles. The ordinary muscular conditions under which the eyes are used are those under which I believe they should be examined and a correction made that will encourage muscular effort along normal lines.

The paralysis produced by a cycloplegic has not resulted in greater accuracy in my refractive work. Many cases which have been refracted previously and also after the use of atropin have not usually had the axis of the cylinder changed, nor has there been any other change in the refraction save an increase in the amount of hyperopia or astigmatism or of both under the cycloplegic.

It is the writer's habit to get the refraction by means of test lenses directly after the history of the case has been carefully or exhaustively taken, confirming this by retinoscopy, and the ophthalmoscopic ex-

amination is made after the muscles have been tested. If good vision, a good ciliary muscle and fairly well balanced extrinsic muscles justify the prescription of glasses, lenses are carefully adjusted to the face in a trial frame and the previous test made with the phoro-optometer is confirmed or modified. In some cases "fogging" for two or more lines of Snellen's type may aid in adjusting the astigmatia lens. This has not often been found necessary, however.

The duccion is very carefully measured as giving one of the best means of getting at the prognosis in refraction work and also as a basis for practical advice in the use of the eyes. It is as necessary as it is to know the range of accommodation in presbyopia. This detail is carefully gone into, and if found to be good, glasses are adjusted for a trial in presbyopic cases as in others. The patients try the lenses for 15 or 20 minutes, using cards with rather fine type, particularly Fuchs's reading card, which has the letters made according to the scale of Snellen's test type. If there is relief of their symptoms and they develop no new ones of the eyes or head, glasses are prescribed and are usually used comfortably for a reasonable period.

If, however, there is a considerable exophoria, particularly in accommodation, with low adduction and an easily tired ciliary muscle, the probabilities of such a patient using glasses comfortably is somewhat questionable. In such cases must be carefully considered the vocation of the patient, whether he is using his eyes excessively and hygienically or whether any decrease in the strain from over-use can be brought about by modification of either one of these factors. The amount, quality and kind of light is very important in these days of electric incandescent gas lighting. The white light from a mantle gas burner or an electric bulb has a short wave length, and is much more irritating than the light with a longer wave length produced by oil lamps or the ordinary gas burner. Many young men who have never had any trouble with their eyes during school life, develop itching, burning and other irritating conditions of the lids with fatigue of the eyes or it may be headaches after they have worked on books for a year or longer, where the work has to be done wholly under electric light. Most of them are found to have a small refractive error with a good muscular balance. They have retinal congestion and can be speedily relieved by removing their 16 or higher candle power light with its reflector to more than twice the 16 or 18 inches from their

books at which they have been accustomed to use it. Excessive illumination is one of the most common causes of eye strain.

If these changes do not bring relief or cannot be brought about a cycloplegic must be used. If the patient be a man in active business who can not spare the use of his eyes for the two weeks of atropin, scopolamin is used. But the cases where this has been used in recent years have been very few. Most of the cases having moderate exophoria with low adduction are among women who can spare the use of their eyes more or less completely for *the use of atropin therapeutically*.

I mean by that a solution of 4 grains to the ounce, carefully instilled into the outer canthus of each eye morning and night for four days, when the first careful test is made of both the refraction and muscles. The atropin is then continued at night only for four days and another test made. Unless some excessive dryness of the throat or other symptoms manifest themselves, which is rare, the atropin is continued with a test every fourth day until such time as the refractive and muscular condition show a uniformity at two successive tests. The refractive test will usually be uniform after the first or second test, and sometimes there will be a constant improvement in the adduction and a lessening of the exophoria at a number of successive tests. As soon as the point is gained where there does not seem to be any further improvement, the atropin is stopped and the effect allowed to wear off naturally. A final test is made when the pupil has regained its normal activity and the ciliary muscle shows ability to use the eyes in accommodation.

Dr. A. B. Norton contends* vigorously for the universal use of cycloplegics, and in emphasizing the fact that atropin is the best, strikes what seems to me is the key to the use of all cycloplegics when he says "The complete rest of the accommodation for one week, due to the fact that the patient is unable to use the eyes for near work, is in itself of utmost value. This rest may even relieve the patient in some cases without any change of glasses."

Such a rest of the ciliary muscle will also oftentimes make it possible for those not yet 30 years old to wear lenses with perfect comfort for two or three years without any attention to a large muscular imbalance.

*N. E. Med. Gaz., Jan., 1910.

If there is still too great an insufficiency of the internal recti for comfortable use of the eyes, this use of a cycloplegic furnishes a basis for beginning the training of the weak internal recti by the means of loose prisms or the stereoscope, especially with the latter if there seems to be a marked lack of fusion ability.

If the method of strengthening by loose prisms is selected they are used, after a careful measurement of the muscle, at each visit at the office and not by the patient at his home in any hap-hazard way. The stereoscope with the cards, however, can be used at home with benefit.

Fuchs says that the constant tonic contraction of the ciliary muscle amounts to about .25 D., but if this diminished refraction is 1. D. or more after the use of atropin the condition may be regarded as spasm of the ciliary muscle. If we reserve the term spasm for those cases where the subjective test shows myopia and the objective hyperopia, we are at a point where we are all agreed a cycloplegic is necessary. Fuchs says that accommodative spasm has been much over-rated, not only as to its frequency but as a cause for the development of myopia. With this I heartily concur. Spasm has not been found except in a small percentage of the cases, but when it is present a cycloplegic should be used.

To use atropin in patients who are past 35, and not suffering from a spasm of accommodation or marked weakness of the ciliary muscle, is to bring out more or less of the latent hyperopia in many of these cases which can usually be overcome successfully by the gradual training of the ciliary muscle, which hypertrophies as do other muscles from systemic exercises. If you use atropin in these cases you take away from the ciliary muscle this hyperdeveloped power for overcoming this latent hyperopia, and such patients are compelled to wear glasses for near use from three to five years earlier than they otherwise would, and many times to wear glasses constantly.

The ciliary muscle should be treated rationally and as a muscle and not abused and its action lessened by cycloplegics. In the last thousand cases examined 135 have returned; cycloplegics were used in only 50 cases. In 12 of these scopolamin was used. In the last five years atropin has been used in 63 cases. In the last 10 years 571 cases have been seen more than once, and those prescribed for without cycloplegics have been found to have used their glasses as comfortably and for about as long a period as those where the cycloplegic was used. It has been stated that we do not know the accuracy of our work and how

many patients fail to come back to us. In my case only 12% had returned after five years.

Many patients dread a cycloplegic, and there is a general feeling among the laity that the eyes may never be the same after a cycloplegic is used as they were before. While there is no actual proof of this, and it is probably not the case in those under 25, after that age there is at least some basis for the feeling that the ciliary muscle has had its action interfered with. In these latter cases the time at which glasses were necessary has been hastened, and they are compelled to wear glasses more steadily than would otherwise have been the case had the ciliary muscle retained its original activity.

The use of the weaker cycloplegics, like homatropin or homatropin and cocain, has not been touched upon for the reason that these are used more for their mydriatic than for their cycloplegic effect. They are largely used by those who feel that they can shorten the examination and at the same time get mydriasis for the best objective testing.

The writer prescribes many lenses without a cycloplegic where the correction is less than .25 D., which Duane says is impossible. Almost no glasses are prescribed without an astigmatic correction if only .25 D., as is found in many cases of presbyopia. If then we take the ground that lenses can be fitted with sufficient accuracy to give the patient comfort and freedom in the use of his eyes without resort to cycloplegics in the great majority of cases, when is it necessary to use atropin as a therapeutic agent?

First. In conditions of true ciliary spasm, a comparatively small class of cases.

Second. In irritable and tired ciliary muscles which are considerably below the normal.

Third. As a basis for prescribing prisms or training the rectus muscle where imbalance must be corrected. And,

Finally, that for the patient there is economy of time, economy of expense and probable comfort in the use of glasses to be found in correcting the manifest error of refraction as carefully as possible before making any attempt to correct the latent error or to destroy the effect of the trained ciliary muscle in overcoming refractive errors.

DISCUSSION.

J. M. PATTERSON: Experience teaches me that there are many cases of refractive error that cannot be accurately corrected without the use of a cycloplegia. Whenever my findings from the test lenses and retinoscopy do not closely harmonize a cycloplegic is demanded. I do not believe it possible to be absolutely certain of the refractive condition of the eyes of the patient under twenty-five years of age without ascertaining the total amount of accommodation. It is true that we cannot always test eyes in this manner, but the fact remains that it is the best method, altho in this, as in many other things pertaining to the treatment of the sick or deformed, we are frequently forced for various reasons to adopt the next best method. Dr. Schenck admits there are cases in which a cycloplegic is necessary, but fails to show clearly where we should or should not use it. We know that he is correct when he says that in many cases, especially in adults, paralysis of accommodation is not necessary. Personally, I rarely find atropin needed in testing the eyes of adults. It is also true that what is known as ciliary spasm is rare, yet it does exist and in many cases we cannot affirm or deny its existence without the cycloplegic.

Every one of us have had cases in the young where every known test aided by "fogging" would indicate a myopia of one-half to one diopter, and after the use of atropin a plus lens of one to three diopters would be prescribed and worn with relief of symptoms. One serious fault I have noticed in those who use cycloplegics in a large per cent. of their cases is the tendency to overcorrect the hyperopia. After a few weeks these patients, as Dr. Schenck says, drop in to see the optician or oculist, who weakens the plus lenses one-half to one diopter. The patient wears the glasses with great comfort and lauds the skill of the second gentlemen, never dreaming that he had gotten his cue as to the proper correction from neutralization of the lenses prescribed by the physician who used the cycloplegic.

I also agree with Dr. Schenck's statement that atropin used in hyperopes over thirty-five years of age often compels these patients "to wear glasses for near use from three to five years earlier than they otherwise would, and many times to wear glasses constantly." But I am convinced that in people under twenty-five years of age the use of a cycloplegic is the truly accurate and scientific method.

The total refractive error being known, the judgment as to the amount of the defect to be corrected is the real test of the successful refractionist. The physician who uses atropin in every case under forty-five and the physician who claims to properly correct all his cases without its use are each extremists, just like the physician who never uses anything but the indicated remedy and the lazy doctor who never makes an effort to find the indicated remedy.

Dr. Schenck takes the sensible and reasonable middle ground, which I believe is the sane and safe attitude to assume not only in management of refraction, but in all the problems that confront us in this life.

G. A. SUFFA: I do not quite understand Dr. Schenck's position; he advises the use of atropin as a therapeutic agent in ciliary spasm and also in loss of action of the ciliary muscle—two opposite conditions. He says that it gives us a basis for taking the strength of the muscles, that is the extrinsic muscles, in consideration and for exercises with prisms or the stereoscope. I do not quite understand where it comes in as help in strengthening the inner recti. It is contrary to my idea of the use of drugs. It appears to me that by his repeated examinations with prisms base out the doctor develops the inner muscle, thus getting increased adduction.

In my own work I make subjective tests first and use atropin only where I am not satisfied with the results of those tests. I do not see that the use of atropin is of much service in other cases unless you have some unusual nervous symptoms to contend with. It is certainly contrary to my idea of the effects of its use in weakened accommodation or adduction.

E. D. BROOKS: When to use and when not to use mydriatics and cycloplegics is one of the perplexing questions that specialists have to meet. The majority of the cases that come to us for glasses are people who have been already to the optician and have been dissatisfied with his work; that is they are cases out of the usual. I take it for granted that there is something unusual about the case if the optician has failed to give satisfaction, for he is as good at guessing what glasses are needed as I am. Under these circumstances I always use a cycloplegic, but it has not been atropin; I always use homatropin. I may lack progressiveness but I have never experimented with anything else. The reason probably is that I have always succeeded in satisfying my patients with the use of the homatropin.

In cases that come to me *de novo* I make preliminary tests without the use of any drug in the eye, and then I test the accommodation; if it is what it should be I am sure there is no ciliary spasm.

Where the patient makes uncertain and varying answers with the same test I suspect that there is something wrong with the ciliary muscle. Then to put it in stable equilibrium I use the cycloplegic.

J. L. MOFFAT: When I have used a mydriatic, I always feel that I want corroborative tests a few days later before deciding upon the condition present. Sometimes patients disobey me and use their eyes during the period that they are under the influence of the cycloplegic; this gives them some distress, the accommodation being weakened from the effects of the atropin; such patients are apt to develop asthenopia or perhaps a spasmodic condition of the ciliary apparatus as a result.

R. W. HOMAN: Those who use atropin in testing the refraction say

it is guesswork to test a case without it, but I notice that they advocate one of two things: they either make a reduction from their finding or else they wait until the effect of the atropin has passed off and then make a second test before prescribing a correction. What is this but guesswork? Under cycloplegia the eye is in an abnormal condition. Not only that but in a certain number of cases atropin has a tendency to disturb muscle balance and weaken adduction. I maintain that the correction of refractive errors can be satisfactorily done by the fogging method, without the use of a cycloplegic, by beginning with strong plus lenses and working them down with minus lenses instead of working up with plus. Then we know that we are not going to disturb muscle balance or reduce the power of adduction.

D. W. WELLS: The use or the nonuse of cycloplegics is a subject that we could discuss *ad infinitum* without coming to any conclusion, and it is not the point under discussion.

The point of special interest about the paper is that the writer recommends the use of atropin therapeutically in cases of spasmodic and weakened ciliary muscle. This is the point that is new, I never heard of it before. When I have found a case presenting a weak ciliary muscle, I have felt that that was not a case for atropin. This point is the keynote of the paper and the point that ought to be discussed. If there are any gentlemen here who have tried this plan of therapeutic action I wish they would tell us more about it and also I would like Dr. Schenck to explain how it is that "atropin very often destroys this compensatory (hypertrophy) action" in one class of cases and so renders it unwise to use it for refraction, yet produces the opposite effect in weak accommodation even after long administration.

HERBERT D. SCHENCK: Dr. Patterson states that the total amount of refractive error in those under twenty-five should be discovered before prescribing glasses; this does not appeal to me as any more necessary than in those older. In fact most of the cases needing atropin are found in those much beyond this age, according to my observation. This may be peculiar to me, but I have not used atropin unless there were distinct indications for it.

Those cases having a low power of accommodation almost always have as an accompaniment a weakened condition of the internal recti; instead of overcoming a prism of 20 degrees they will be able to overcome one of only 10 or 12 degrees. In such cases the ciliary muscle will be greatly benefited by an enforced rest thru the use of atropin. Try it and be convinced.

DR. WELLS: Atropin destroys or diminishes the power of the ciliary muscle; how then can it in one case overcome hyperopia and in another ciliary paralysis?

HERBERT D. SCHENCK: Atropin inhibits temporarily the action of the ciliary muscle. If this muscle has to put forth an effort beyond its normal capacity in order that the accommodative effort may make

up for a lack of convergence due to exophoria, especially in accommodation, it must have power to work beyond its normal strength if the eyes are to be used comfortably at the other point. This may become possible in those under thirty-five or forty years of age by the increased effort causing increased blood flow and consequent hypertrophy of the ciliary muscle. Use beyond the limit which this increased power permits causes asthenopic symptoms and fatigue. The use of atropin in such cases, by inhibiting the action of the muscle for a time, makes it impossible for the muscle to regain this acquired power, and makes glasses necessary to supply the deficient power of convergence. It is common practice with us all to prescribe glasses to correct hyperopia where there is asthenopia and inability to use the eyes comfortably in those approaching presbyopia, but my contention is that many of these cases need only to wear glasses in accommodation if atropin is not used to refract them. The ciliary muscle may be weak without being paralyzed, as may any other muscle. Why cannot weakness causing inability for prolonged use affect this muscle as well as any other? We certainly ought to be able to recognize the difference between weakness and a paralysis caused by natural causes or a cycloplegic. There is no claim in the paper that hyperopia can be overcome, but a strong ciliary muscle makes it possible to have objects at the near point focused on the retina and made clearer where glasses would be needed with a weak muscle.

DR. WELLS: You say that it overcomes it without the use of glasses?

DR. SCHENCK: Without the use of glasses so early in accommodation and it may make distance lenses unnecessary if you do not disturb the power that has been developed through stimulated effort. Adduction can be increased by instillations of atropin, treating the ciliary muscles for two or three weeks. It is the rest from effort that helps.

DR. SUFFA: My notion was that with the ciliary muscle weak, atropin was contraindicated.

DR. SCHENCK: The effect of atropin used continuously for several weeks upon the ciliary muscle is to increase the power of adduction, as I said before, and in that way help the ciliary muscle in its accommodative work.

Dr. Brooks calls it guesswork not to use atropin. He cannot correct all the errors found under atropin. He must test his case after the effects of the atropin have passed, and must use his judgment as to how much of the total correction may be worn comfortably. My plan of judging how much correction the case needs without atropin is no more guesswork than his. It is a matter of judgment cultivated by experience. This is a place where the personal equation is the greatest factor.

MUSCULAR ASTHENOPIA.

R. W. HOMAN, M. D.,

Webster City, Ia.

A GREAT deal has been said on this subject but there is still something to say, especially with a view to promoting a better understanding among the younger members of the profession. In the writer's opinion too much has been written about the phorias or static condition of the ocular muscles, and too little about asthenopia or their dynamic condition. The word asthenopia means painful* vision. One of our best writers classifies asthenopia under two heads: accommodative asthenopia, due to weakness or exhaustion of the ciliary muscles, and muscular asthenopia, due to weakness or exhaustion of the internal recti muscles.

Muscular asthenopia is one of the penalties of civilization. The majority of people, especially those who live in towns and cities, surrounded as they are by walls of the rooms in which they work, are almost constantly exercising accommodation and convergence, and asthenopia is a frequent result.

The average work on diseases of the eye has a chapter devoted to muscle conditions. The greater part of such a chapter is given up to a discussion of the various abnormalities of muscle balance. This is the static condition of the muscle and the average author is content to suggest certain lines of treatment for this condition and let the matter rest with never a word in regard to abnormalities of functional power, the dynamic condition of these muscles, which is the true index of muscular asthenopia. It is not enough to determine the muscle balance and then prescribe treatment for the muscles. The *functional power* of the internal recti should also be determined. Many an oculist who thinks his duty done when he has measured the muscle balance will be surprised to learn that more than half of the cases of esophoria have weak adduction. Of course the treatment prescribed for esophoria in this class of cases does the patient more harm than good. Also heterophorias are spasmodic and changeable. Almost any one of us who has had occasion to measure the muscle balance of the same

*Or, rather, weak vision.—EDITOR.

patient periodically has found that esophoria, exophoria or even hyperphoria will differ from one time to another owing to any condition capable of producing nervous instability.

With a very few exceptions muscular asthenopia is found in connection with refractive errors. In order to better show the prevalence of weakness of the internal recti muscles I herewith present a study of the muscle conditions in four hundred cases which I have tabulated from my every day work as shown by my case records. No case over forty years of age or with weak accommodation was included in this tabulation.

In the 400 cases the refraction was found to be hyperopic in 313, myopic in 47 and mixed in 40. Of the 313 hyperopic cases 119 were simple hyperopia, 61 simple hyperopic astigmatism and 133 compound hyperopic astigmatism. Among the myopic cases 4 were simple myopia, 14 myopic astigmatism and 29 compound myopic astigmatism.

In all these cases the muscle tests were made with the refraction corrected. The testing was done in a threefold manner. 1st, with the Maddox rod, the light at fifteen feet, showing the muscle balance. 2d, at the near point with the Le Grange neuroptometer, showing the power of convergence or adduction with accommodation, and 3d, with the prism bar, light at fifteen feet, showing adduction with accommodation eliminated. In this test the internal recti should overcome at least four times as many degrees of prisms as the external recti. To determine the true functional power of the internal recti or adduction, we must test at a distance, thus eliminating the accommodative effort. Keeping in mind the fact that muscle balance means only the static condition of the extraocular muscles or the relative positions of the two eyes when the fusion faculty is suppressed either by the production of artificial diplopia or with the Maddox rod, and that the last two named tests show the dynamic or functional power of the internal recti, the one assisted by the accommodative effort and the other without it, the study of these tabulated cases is a matter of considerable interest.

As to the muscle balance: In the 119 cases of hyperopia there was normal muscle balance in 33 per cent., esophoria in 56 per cent. and exophoria in 11 per cent. In the 61 cases of hyperopic astigmatism there was normal muscle balance in 42 per cent., esophoria in 50 per cent. and exophoria in 8 per cent. Of the 133 cases of compound hyperopic astigmatism there was normal balance in 30 per cent., esophoria in 55 per

cent. and exophoria in 15 per cent. Of the 4 cases of myopia there was normal balance in 50 per cent. and esophoria in 50 per cent. In the 44 cases of myopic astigmatism there was normal balance in 50 per cent., esophoria in 21 per cent. and exophoria in 29 per cent. Of the 29 cases of compound myopic astigmatism there was normal balance in 27 per cent., esophoria in 41 per cent. and exophoria in 32 per cent. In the 40 cases of mixed astigmatism there was normal balance in 42 per cent., esophoria in 48 per cent. and exophoria in 10 per cent. Of the whole number of cases, regardless of refractive error, we find normal balance in $34\frac{1}{2}$ per cent., esophoria in $51\frac{1}{2}$ per cent. and exophoria in 14 per cent.

All will agree, I think, that in exophoria the internal recti muscles need stimulation, and the examiner who goes no farther than to determine the muscle balance would say that in cases having esophoria there should be stimulation of the external recti, while those having normal balance need no muscle treatment. But let us go into the subject a little deeper. Thus far we have only studied the muscle balance, the position of the eyes when at rest. Let us turn our attention to the functional power of the internal recti and see what strength they have displayed in these cases when in a state of activity.

In convergence, at the near point, we find in the hyperopic group (hyperopia, hyperopic astigmatism and compound hyperopic astigmatism) 80 per cent. with normal power and 20 per cent. weak, while in the same cases we find adduction normal in only 27 per cent. and weak in 73 per cent. In the myopic group we find normal convergence in 85 per cent. and 15 per cent. weak; in the same group of cases we find adduction normal in only 26 per cent. and weak in 74 per cent. In the cases of mixed astigmatism we find normal convergence in 90 per cent. and weak in 10 per cent., while in the same cases we find adduction normal in only $27\frac{1}{2}$ per cent. and weak in $72\frac{1}{2}$ per cent. It will be observed that we find the percentage of normal power higher in the test at the near point than at the distant point, by which we see that the true functional condition of the internal recti is not shown until we eliminate the accommodative effort. To return briefly to the muscle balance, we find that of the 138 cases of normal balance 82 per cent. had weak adduction, and of the 206 cases of esophoria $62\frac{1}{2}$ per cent. had weak adduction. When we come to consider such a large percentage of weak adduction in esophoria and normal balance, the conclusion is thrust upon us that it is not so much a question of muscle balance as of muscle action.

As to causes of muscular asthenopia we can say that any impairment of the general vitality may produce it, but by far the greater percentage of the cases are caused by refractive error. Overuse of normal eyes at the near point is sometimes the cause.

The symptoms are numerous and varied. Any or all of the following may be present: Headache, frontal, temporal and in aggravated cases occipital. Eyes tire quickly when in use at the near point; blurring of vision; drowsiness; smarting, burning and aching in eyes; conjunctivitis; vertigo; nausea; general nervous exhaustion, brought about by the constant expenditure of nervous energy required to maintain single vision. The above are the chief symptoms found; many others may be present.

How are we to treat these cases? The first thing to do, in the majority of cases, is to correct the refractive error. But it depends upon the variety of the refractive error and the amount of muscular weakness whether we shall stop with this or not. Speaking generally, all convex lenses may be regarded as sedatives; all concave lenses as stimulants. The classification of lenses is a great help in understanding their effect on the function of convergence. Accommodation and convergence are very closely related to each other, altho not inseparable.

In hyperopic cases the convex lens which is prescribed to relieve excessive accommodative effort will also quiet the stimulus to convergence, and if weakness of the internal recti is present it will likely remain until the muscles are treated. I always advise muscle treatment in addition to spectacles in all hyperopic cases where much weakness of adduction is shown. Some people are very hard to convince that glasses are not all they need, but if they suffer as a result of their obstinacy it is their own fault. Too often they get the idea from their family physician that glasses are all they need.

In myopic cases the concave lens prescribed is a stimulant and at the near point calls for increased activity of both accommodation and convergence. Such cases in which there is but a moderate amount of muscular weakness will usually recover with spectacles only. If weakness is pronounced the muscles should be treated. The case should at least be kept under observation a few weeks.

The treatment needed in these cases, in addition to spectacles, is prism exercise. To be successful prism exercise must be directed not toward the correction of a heterophoria, but toward restoring power to muscles that are *functionally weak*. A great deal has been written on

the treatment of muscular imbalance, but muscular imbalance doesn't always indicate the state of functional power by any means. As a convincing point in regard to this statement I will call attention to the 206 cases of esophoria mentioned earlier in this paper. Of these 62½ per cent. had weak adduction. If the esophoria had been treated these cases would have become worse instead of better, because the wrong set of muscles would have been exercised. Heterophorias are spasmodic and changeable and will usually disappear gradually after the refraction is corrected. I usually pay but little attention to them except as a matter of record. In case the degree of esophoria was great and there was no weakness of adduction present a prism base out might be prescribed with advantage. Therefore in muscular asthenopia it is the internal recti that are weak, and it is the purpose of the prism exercise to stimulate these muscles and the oculomotor nerves in a regular systematic way.

I usually have the patient come to the office three times a week and seat him facing a light fifteen feet distant at which I direct him to look. I put the trial frame on his face and then begin with the prism bar before one eye, with apex of prisms toward the weak muscle. My prism bar contains fifteen prisms, each one degree stronger than the one preceding. I begin with the one degree prism and after waiting two or three seconds for the eye to respond I drop the bar to the next stronger prism, and so on. When the patient has overcome the fifteen degree prism I quickly remove the bar and insert in the trial frame over the other eye a ten degree prism from the trial case, base out. I now begin again with the prism bar as at first and continue as long as the patient can maintain single vision, the whole sitting occupying ten or fifteen minutes' times. This is followed by two or three minutes' application of mild faradism over the insertion of the weak muscles. In cases of anemic individuals and those of sluggish temperament I find that a brief application of the electric vibrator along the back of the neck and between the shoulders is productive of good results. The adduction should be developed up to forty or fifty degrees and kept there for three or four more treatments given at less frequent intervals, when the treatment can be discontinued. My experience with convergence exercises at the near point has not been encouraging. In this form of exercise the accommodation comes into action and we are not certain how much of the stimulus goes to the ciliary muscle and how much to the internal recti. Therefore it will be found that such a method of treat-

ment is not so successful as exercise given while accommodation is at rest.

I consider internal remedies a great help in connection with prism exercise. In a few cases in which it was impossible for the patient to come often enough for prism exercise I have used internal remedies alone with good results, both as to relieving symptoms and strengthening muscles. In one such case, an anemic lady about thirty years old, who had a great deal of frontal headache, *natrum muriaticum* 30 cleared up the trouble in a couple of months. When there is much headache I use *gelsemium*, *onosmodium*, *bryonia* or *natrum muriaticum*. Where weakness and blurring predominate *ruta*, *natrum muriaticum* or *kali carbonicum* is to be thought of. Where there is a great deal of nervous twitching of lids and accommodative spasm I use *agaricus* or *jaborandi*; both these last remedies I use in the first decimal dilution. If there is any impairment of the general vitality it should be looked after of course.

Should the weak muscles fail to develop to a proper standard of strength prisms may be prescribed to support the weak muscles, Rarely more than two or three degrees of prism can be worn before each eye on account of the weight and thickness of the glass; however such use of prisms acts only as a crutch and does not increase the strength of the weak muscle. Usually not more than half of the prism correction may be worn. Some years ago a great deal was said in favor of partial tenotomy in these cases, but if the muscles are properly treated this is very rarely necessary.

In the preparation of this paper I have drawn freely from a paper on the same subject which I read before the Hahnemann Medical Association of Iowa three years ago, but in the present paper the number of tabulated cases is more than twice as large and the conclusions are worked out more thoroly. I have perhaps offered nothing new to the older practitioners, but I hope I have helped a little to clear up the problem of muscular asthenopia in the minds of the younger workers who have not long trodden the oculist's path.

DISCUSSION.

CHAS. G. JENKINS: From a hurried looking over of some of my records I find that the percentages very nearly correspond to those which Dr. Homan has presented and I shall confine my remarks to the line of treatment in these cases which has given me the best results.

In treating these cases after the refraction has been worked out I ask the patient to wear the correction two weeks and then make another test of the adduction and sursumduction, as nearly all of the cases of weak adduction show weakness of the superior and inferior recti; for this reason I am accustomed to give treatment of these muscles in connection with the treatment for the weakened adduction. If on the return at the end of two weeks there has been any improvement in the power of adduction I instruct the patient to report at the end of two weeks more and by that time we usually have all the gain which we get from the reaction to the correcting lenses. I then begin with the use of the weakest prisms, base out before each eye, which they can easily fuse; for this purpose I have a set of square prisms $1\frac{1}{2}$ inches square and a frame which will hold them evenly in front of the eyes with a hole 10 millimeters in diameter in a black curtain with a frosted electric light behind placed twenty feet away. I ask them to fuse the lights if two are seen and if only one then I lift the frame up so they view the light naturally, then drop the prisms down again and in turn ask them to again fuse the two lights. In a few minutes they are able to understand what is wanted of them and then I ask that they say "one" when two lights fuse. I then raise the prisms and allow the contracting muscles to relax, for I find that they do better with an alternate contraction and relaxation of the muscles than where they attempt to hold a single image of the light until the muscle is so tired as to relax in spite of their efforts to hold a single image; this process is kept up for five or six trials and then stronger prisms put in the frames and the process continued as long as they are able to fuse the lights. After this I give five minutes to the fusing of weak prisms base up or down in front of eyes alternating the same way and giving treatment one day to the right superior and left inferior and at the next treatment day exercising the left superior and right inferior. Following this exercise I use a mild Galvanic current for five minutes alternating over the right and left internal recti 15 seconds to each muscle in connection with an automatic rheotome, in this way again bringing into play the alternate contraction and relaxations of the muscles. Using the negative pole fitted with a small sponge electrode over the closed lids and the positive pole in the hand, I have found the best success in this work by having the patient three times each week if possible until they thoroughly comprehend what the effort they must make, then I change to two treatments per week. Usually the treatment is kept up until they readily fuse 60 to 75 degrees of prisms base out divided as equally as possible between the two eyes for adduction, and 3 or 4 degrees of sursumduction; then the treatments are gradually placed farther and farther apart until I am satisfied that the patient can do without farther treatment.

In the matter of internal treatment I use *agaricus muscarius* or *gelsemium* where there is much twitching, especially if headache is in

back of head and neck; calcarea carbonate or phosphate if the patient is a child, and even if older if symptoms of the calcareas are present. Lachesis in cases, which are not rare, at the climacteric. Spigelia if there is a gradual increase of pain until noon and a decrease until sundown. Ruta graveolens or cinnabar if the pain is referred to the region of the frontal sinus or the tissues about rather than in the eye ball. Onosmodium if pain is especially referred to the left side; and of course other remedies as the symptoms may present.

EDGAR J. GEORGE: I have given considerable attention to muscular anomalies in the past, especially to their etiology, and have come to the conclusion that they are divided into two classes or kinds, namely, pseudo cases and congenital cases.

The pseudo cases are due to ocular defects and the abnormal condition of the muscles passes off when the ocular errors or defects are corrected.

The congenital cases come on later, generally appearing some time after puberty. Why is this? I think that it is due to senile changes in the muscular tissues, similar to what takes place in the crystalline lens.

The crystalline lens is soft and flexible in youth; at about forty-five years of age the condition of sclerosis becomes apparent, the muscles become hardened and stiff with age, as we can readily see in the flesh of an old fowl compared with that of a young one. The gradual changes of age cause this sclerosis in the tissues of the muscles, causing relaxation, and develops heterophoric conditions as a result. According to Stevens heterophoria is divided into manifest and latent. He develops the latent and then performs tenotomy. The treatment of heterophoria is different with different specialists; each one seems to treat it after his own method.

I have tried prismatic gymnastics and find that my best results are from combining prisms with those lenses which correct the ocular defects, especially when the latter are moderate in degree.

G. A. SUFFA: I spend a great deal of time upon the subject of muscular troubles of the eye, this forms a large part of my work. I was surprised that Dr. Homan reports such a large number of esophoric cases having weak adduction; I would like to ask whether they were not largely children or to know what proportion were children. My own experience is a relatively larger per cent. of exophoric cases, and the proportion increases as age advances.

I can agree with the writer in calling muscular asthenopia senile; it is the normal course of events as age comes on; the muscles take that change. The tendency in younger years is towards esophoria, as time goes on the esophoria will disappear and exophoria will come on. I believe that it is wrong to cut the internal rectus muscle.

D. W. WELLS: I want to compliment the author for presenting a concise and scientific statement of the subject. The occurrence of esophoria with weak adduction I have frequently noticed, and it was

brought to the attention of the society by Dr. Cross at our last meeting. I have wondered how it is that a muscle that is too weak could overcome its opponent and produce esophoria. Many of the cases of esophoria have extremely weak adduction, and in testing the fusion faculty many of these cases are found to be decidedly defective. I believe that a low development of the fusion faculty is a causative factor in giving the eyes a turn inwards. I correct the refraction, always using cycloplegics, and I also test the fusion faculty; if this is weak I go to work at improving it by means of the stereoscope and the bar for controlled reading. There is a tendency to suppress one eye or the other but with this bar before the eyes the patient cannot do this; he is compelled to use the two eyes. This exercise has an excellent effect if persisted in for a number of months. In addition to these means, the adduction is cultivated by the use of loose prisms, used by me at the office not given to the patient to use at home. I, too, am surprised at the large percentage of esophoric cases that Dr. Homan speaks of. I thought exophoria the more prominent condition.

G. A. SHEPARD: I can add my testimony to the prevalence of esophoria and it would be more generally appreciated if the tests were made with complete correction of the refraction. I am very sure that more than 25 per cent. of my cases of esophoria have shown weak adduction.

I think that we should use the prism exercise with a great deal of care, whether our work has been muscle work or the exercise of the fusion sense. In detecting the suppression of the image it is necessary to use the most extreme care or slight suppression will escape us. Different patients will have different habits and degrees of suppression. The fusion sense will be appealed to by certain things that will be fused correctly while certain other things just as easy to fuse will be ignored and neglected by it; this can be detected only by careful observation of each individual patient. In exercise of the internal rectus muscle with prisms for distant vision we do not eliminate the accommodation; prism exercise in the distance is sure to be defective in many cases and I have test type or figures for the patient to look at. A patient will overcome six degrees of prism deflection with ease and yet will be unable to fuse letters with ten degree prisms without showing marked accommodation. In the use of prisms for the strengthening of adduction we will get better results if we have the patient look at a definite image and at a known distance.

One symptom of weak adduction is an inability to look a person in the eye; the gaze will be shifted about giving the patient a furtive air—a sort of disturbed conscious look. They will be unable to fix their eye upon yours. This symptom is an important one on forming a judgment as to the necessity of doing some work on the adduction.

E. G. LINN: My findings in this class of cases are in harmony with those of Dr. Homan; I have found a large per cent. of cases of eso-

phoria with weak adduction, but the results of treatment have not been so permanent as in the series of cases reported by him. My own cases and the cases of other specialists that I have observed have shown a tendency to relapse into their former condition: hence I do not have an abiding faith in the method of prism treatment in a majority of cases.

F. C. SAGE: I use very much the same treatment as that described by Dr. Homan and find it very successful. The trouble with Dr. Linn's cases is that he does not follow up the treatment long enough. My general rule is to get the patient up to sixty degree prisms—that is get them to where they can overcome a sixty degree prism—and then I have them come back occasionally. I have had absolute divergence where they still were able to do close work after the prism exercises and other treatment. Before taking the treatments they were not able to do any near work at all. I compliment the author upon the scholarly and exhaustive paper that he has written.

E. D. BROOKS: It is hard to explain how different results are obtained from practically the same treatment. It may be owing to the operators. It seems to me that the principle involved is not to keep the muscle fixed to a particular position but rather to give it the power to assume any position that is necessary and to hold it there. For this purpose I give the muscle alternate contraction and relaxation; I do not attempt to hold the muscle to one position, but in order to enable it to do that itself by repeated changes of contraction and relaxation I develop the muscle. It is not so much lack of muscular power that is the trouble as it is the lack of co-ordination and innervation. In this way I have in five treatments brought a case from fusing five degrees, fusing fifty degrees and given the patient complete relief. If the trouble was purely muscular weakness I do not think that that could have been done.

DR. HOMAN: I am surely gratified at the manner and amount of this discussion and at the many points brought out by it. Some of the questions I may not be able to answer. In treating muscular asthenopia, the sooner we get away from the idea that we are treating heterophoria the better will be the work that we do. As for prescribing prisms for constant wear, I am growing a little more shy of that every year of experience that I have. The prisms either keep the weakness where it is or increase it, and in the course of a year you have to put on more powerful prisms. In regard to the gradual increase of muscular asthenopia due to the hardening of the tissues by age, my experience has been to find less muscular asthenopia in elderly people than in those from thirteen to forty.

DR. SUFFA: What proportion of your cases were in children?

DR. HOMAN: I cannot give the exact proportion of children; from ten to forty were the ages of my patients tabulated in this record.

As to weakened muscles in esophoria we find that sixty-two per

cent. of the esophoric cases have weak adduction; therefore it would be doubly a crime to cut an already weakened muscle. It was this very fact that first attracted my attention and awakened my special interest in muscle work. I was brought up to think of these cases as heterophoric and to treat them as such. After some experience I saw that there must be something back of it. I would not say what causes esophoria and weak adduction in the same case. When we have a muscle that is doing more than its share of work and yet is weak it must be nervous irritability, but I do not pretend to settle the question.

DR. SHEPARD: Was this test carried out with complete correction of the refractive errors?

DR. HOMAN: To that question my answer would be yes, but some who use cycloplegics would say no. In testing the refraction I fog the vision down with plus lenses to 15/120ths and then work the fog off gradually with minus lenses. In that way I quiet the ciliary muscle. If the test is not satisfactory, I have the patient sit and rest twenty minutes with strong plus lenses on and then test him again. My answer to Dr. Shepard's question would be yes. In exercising with prisms it is a good thing to tell the patient what you expect of him and thus educate him to co-operate with you in the work. During the seance get the patient to put his whole attention to the work such as fusing the two images into one and so on and the results will be more rapidly obtained. There is a natural difference in patients; some are harder to get results with than others. During a course of prism treatment close work should be avoided as much as possible, but even with dressmakers who could not suspend their work I have brought up their adduction to from forty to sixty degrees in four weeks by the methods mentioned in my paper.

Grave's Disease, a New Principle in the Treatment of. In Crile's opinion the benefits which follow ligation of the superior thyroid artery in this affection are due mainly to the break of the nerve supply which is inevitable in the course of the ligation. In Grave's disease the thyroid shows a work hyperplasia, and the brain cells show a work exhaustion. The brain and thyroid goad each other, and the deadlock, if not broken, continues until one or the other is worn out. This is the explanation of the sequence of myxedema and Grave's disease. Breaking of the nerve connection between the brain and the thyroid renders Grave's disease curable. No case is cured, he believes, until both thyroid and brain are restored to normal. This is best attained by operating so as to avoid exciting the nervous system or thyroid (hence no volatile outbursts during or after the operation, and no operative danger), then placing the patient on a rest cure for a month or more, depending upon the severity of the disease. This combination of a benign operation with a prolonged rest cure will restore the patient, in so far as tissues are not already irreparably destroyed, to the bloom of health. —*N. Y. Med. J.*, Nov. 12, 1910.

LYCOPUS VIRGINICUS AS A REMEDY FOR EXOPHTHALMIC GOITER—REPORT OF THE CURE OF A FEW CASES.*

EDGAR J. GEORGE, M. D.,

Chicago, Ill.

TWO years ago a middle aged lady presented herself at my clinic at the Hahnemann Medical College. One glance was sufficient for a diagnosis of her case, as exophthalmos was marked and tremor of the hands quite perceptible. My first remark to her was: "How long have you been afflicted?" Her reply was: "For about three years, and I seem to be gradually growing worse." I then said to her: "You can get well." "What is that you say, Doctor?" she replied. I repeated my remark to her that she could get well. "Why, Doctor, you astonish me, for I have but recently come from New York, and all the physicians there with whom I have consulted and treated say that my disease is incurable." I again assured her that she could be cured, but it would take at least a year or perhaps a little longer, however an improvement would be noticed within a short time.

Her vocation in New York was that of a missionary in the slum districts; she was obliged to give up work on account of general weakness, dyspnea and tachycardia.

I prescribed *Lycopus virginicus* θ gtt. v, q. i. d. and told her to be faithful to the medicine and report to me from time to time; this she did, and from that time on there was a gradual improvement and a cure effected within the promised time. I saw her but recently a well and happy woman.

About eight years ago this same remedy effected a cure for me of one of the most distressing cases that I have ever seen, and under the most adverse circumstances. The case was also a clinic patient referred to me at the Chicago Homœopathic Medical College.

A little delicate woman about 30 years of age, the mother of three small children, one an almost helpless cripple that required to be carried. Besides being of limited means and compelled to care for her children and household duties, she possessed a brutal husband.

*Written especially for this JOURNAL.

With this case I floundered around with different remedies until at the suggestion of Dr. A. C. Cowperthwaite I put her on *lycopus virginicus* θ gtt. v, q. i. d. and after about a year and a half effected a complete cure. I now see her occasionally. She remains well and is in perfect health.

The following case is from my private practice:

November 3, 1906. Miss A. B. K., age 41, teacher. Had goiter for about ten years. Mother had it, which she thinks was the cause of her death. Heart has troubled her for four years and seems to be gradually getting worse. Is unable to work. Gets out of breath from the least exertion. Tachycardia, pulse 116. Right lobe of goiter greatly enlarged, but the left lobe was not involved. Neck measure $14\frac{1}{2}$ inches. Very nervous, unable to sleep, hands tremble and perspire profusely on the least exertion. *Lycopus virginicus* θ gtt. v, q. i. d. was prescribed. Continued the remedy, with an occasional intercurrent one to meet other arising conditions, from November 3, 1906, to December 5, 1908, with a gradual and continuous improvement to normal, with the exception of the goiter which the remedy did not reduce or seem to have any effect upon.

With the two former cases, while the goiters were not large they disappeared with the disease.

The pathology of Graves' disease is not definitely understood. Although an excess of secretion from the thyroid gland from a primary disease of the gland itself seems to be a recent theory, yet inasmuch as the heart action is reduced by remedies and the general condition of the patient improves, the exophthalmos disappears and in the majority of cases the goiter as well—hence I can see no other cause than a neurosis of the vagus or a disturbance of its nucleus or ganglionic connections; and taking into consideration that the etiology of exophthalmic goiter is generally conceded to be due to a nervous strain, overwork, exhaustion, mental anxiety, worry, grief or fear, rather confirms this theory.

My theory is that with an increased heart action there is an increase in the blood pressure thruout the whole arterial system. The muscular coats of the arteries of the thyroid gland and those within the orbits become exhausted, causing a vascular thyroid enlargement and protrusion of the eyes. At these points the vessels are more superficially located than those of the neck and head and therefore sustain the least resistance. It is impossible for such to take place with the sys-

temic or splanchnic vessels as they lie within looser tissues, and consequently are compensatory to an increase of the heart's action, their dilatation is uniformly regular thruout from which there are no ill effects.

It is thru the influence on the vagus nerve, its center or connections that *lycopus virginicus* and like remedies have their effect and cure, and from this point of view it can be readily understood that surgical interference with the gland will never effect a complete cure of exophthalmic goiter.

Of *lycopus virginicus* Rafinesque says: "It is nonpoisonous and quells inordinate motions of the blood current and is useful in hemophthisis and hemorrhoidal bleeding."

In giving the remedy for a continued period a change or rest should be allowed the patient from time to time, as the system becomes accustomed to the drug which loses its effect.

It may not come amiss to give a brief description of the remedy taken from Boericke's *Materia Medica*, showing the homœopathicity of the drug to the disease.

"LYCOPUS VIRGINICUS (BUGLE WEED).

"Is a heart remedy and of use in exophthalmic goiter and hemorrhoidal bleeding. Indicated in diseases with tumultuous action of the heart and more or less pain.

"Eyes.—Protrusion, pressing outward with tumultuous action of the heart, supraorbital pain.

"Heart.—Constriction, tenderness, pulse weak, irregular, intermittent, tremulous, rapid; cyanosis. Heart's action tumultuous and forcible. Palpitation from nervous irritation with oppression around heart. Rheumatoid, flying pains associated with heart disease."

Dose.—First to thirtieth potency is mentioned, but my results have been best from five drop doses of the tincture, as suggested by Dr. Cowperthwaite.

801 Marshall Field Building.

BLEEDING INTO THE ANTERIOR CHAMBER FROM CAPIL-
LARY TUFTS AT THE BASE OF THE IRIS IN A DEGEN-
ERATED EYE AND THE EFFECT OF POSITIVE GAL-
VANISM.*

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AN examination of the literature will disclose a limited applica-
tion of electrotherapeutics to diseases of the eye. Careful
reading on the subject leaves one with the feeling that it is
very indefinite, and in seeking its aid for a particular condition we are
usually thrown back upon a consideration of elemental electrical effects.

The case here reported is unique in my experience, and I can find no
similar clinical condition reported, but no such claim is made for the
treatment. Writers are not in accord, however, as to the choice of pole
to be applied to the eye and my case is presented only as a clinical ex-
perience.

Edward Jackson, writing on this general subject, says: "As the
matter now stands, the value of electricity in diseases of the eye is
clearly and definitely established for but a few of its applications; is a
possibility worthy of further investigation in a few more; and with re-
gard to other uses, of which much has been written, it is a myth, sup-
ported only by the hopes or desires of the physician or the patient."

"The removal of hemorrhagic effusions within the eye is usually
completely accomplished by natural processes; but the length of time
this requires varies enormously. Blood in the anterior chamber may
in one case disappear in a few hours, while in another eye the removal
of the same quantity of blood will require as many weeks.

"It is therefore difficult to judge of the value of the aid rendered by
electricity. We should however expect judicious applications to hasten
the process of absorption."

Alleman reports "most satisfactory results in clearing up hemor-
rhage from the iris with the cathode to the closed lids."

Ten years ago at the age of eleven years this patient, K. C., received
a violent direct blow in the left eye from a stone thrown at close range.

*Read before the Homœopathic Medical Society of the County of New York.

The immediate effects were iridoplegia, cycloplegia and rupture of the chorioid.

In the course of a week there developed a traumatic chorioretinitis with hyalitis.

A great number of pigment spots appeared in the macular region followed by a cloud of fine opacities in the vitreous so that after three months' vision, which had been 10/200 just after the injury, fell to 3/200. After seven months the fundus could not be observed thru the opacities and his vision was limited to the location of light. At the end of two years a cataract developed and was removed by repeated discission.

From that time till one year ago the eye remained stationary, being entirely blind but with a black pupil and the size of the globe only very slightly smaller than the fellow eye. Tension was minus one.

In November of 1909, following moderate physical exertion, a large amount of blood appeared in the anterior chamber. The lower third was filled with pure blood and the balance of the aqueous was a bloody fluid.

With every change of position of the head there was a corresponding shift of the dense blood to the pendent position. Rest in bed and the use of atropin for six weeks made almost no change in the condition.

Following a slight exertion after leaving the bed there was a further hemorrhage. At no time was there pain, reaction or modification of tension.

During this period he was given, internally, hamamelis, ipecac, ledum, and by the suggestion of a consultant, mercury bichloride 3x, without apparent effect. Discontinuing drugs, negative galvanism was applied with a water bath daily for ten days, resulting in a reduction of blood by about one-half. The condition then remaining quite stationary, I changed to positive galvanism with much marked effect that only a trace of blood remained after three, and none whatever after five, treatments given in the course of a week.

The anterior chamber was clear for five months, when a fresh but lesser hemorrhage followed some unusual exertion made in the course of his work. Positive galvanism cleared this up in seven days.

Two months later, or in August, 1910, while confined to the bed by an intestinal disturbance with moderate fever, he had a third hemorrhage about as considerable as the primary one, which again cleared after a few similar treatments.

Between these attacks it was possible to make out in the angle of the anterior chamber three little tufts of capillaries. Observation of this portion of the eye is difficult and it is impossible to say whether these were from the base of the iris or the sclera, but they seemed to project freely into the aqueous from the iris.

The two early hemorrhages followed exertion but the last one was without such cause.

The attitude of the patient's family toward the situation is that they desire to preserve the eye if possible, but further frequent attacks would so disturb the young man's steady attention to business that other measures must be taken, probably an enucleation.

The anode was substituted for the cathode because of its known effect as a hardener of tissue and a vasoconstrictor and on the theory that the condition was one of continued capillary bleeding rather than exuded blood to be absorbed. The dosage was 20 milliamperes at each treatment.

128 West 85th Street.

Iodine, External Uses of. Though having great powers of tissue penetration Major Woodbury has seen no case of poisoning, even when it was mopped in full strength on the peritoneum and in the parturient uterus. It can be used to disinfect the area of operation without previous preparation; to sterilize instruments, suture material, dressings, and the hands of the surgeon. Boiling instruments is, however, preferable, as the continued use of iodine tarnishes and affects the cutting edges. Iodine rarely causes irritation of the hands.

It can be removed from the latter by boiled or raw starch, ammonia water, or the aromatic spirit of ammonia, hydrogen peroxide, Fowler's solution, or ether. It is advisable, where long periods of operating are expected, to dip the hands in iodine and immediately decolorize with ammonia; rubber finger cots or rubber gloves may be slipped on, and then redipped in the iodine.

A solution of one teaspoonful of tincture of iodine to the quart of physiological salt solution (roughly a dilution of 7 mgm. in 100 cc. or 0.007 per cent.) is efficacious as an irrigation *in all inflammatory and catarrhal conditions of mucous membranes.*

It can be used in the eye for the ordinary forms of *conjunctivitis* with prompt improvement. It is a routine treatment for all acute throat affections; in acute amygdalitis the tonsils are also mopped once daily with the tincture, and Bier's treatment with a rubber bandage around the throat applied. Catheters kept in the tincture and transferred to the iodine salt solution just before use are sterile, non-irritant, and perfectly pliable.—*N. Y. Med. J.*, Dec. 3, 1910.

TREATMENT OF TRACHOMA.

A. B. CLAPP, M. D.,

Muscatine, Iowa.

IF I mistake not the general impression is that trachoma is confined almost entirely to our crowded city districts, and the again we further saddle it upon our foreign born brothers. My cases have come with but one exception from the rural districts and, so far, I have been unable to trace them farther than assuming that disease may have been communicated by traveling laborers.

The two great facts we find in the two stages—acute and chronic; we are in the first instance to impress the acute sufferer with the magnitude of his disease, and in the chronic that there is no royal road or short cut if he wishes anywhere near perfect results from treatment.

We pass over etiology, pathology and symptomatology except that which may enter into our discussion of treatment. What I may have to say regarding treatment will be a summing up of results obtained from experimental and long drawn out treatment applied to very severe cases.

The first impression one may receive in looking over the chronic sufferer is that the treatment applied has been much too severe and that we have a generous amount of scar tissue to battle with, as well as the trachomatous granules. Surrounding the treatment of this disease everywhere are emblazoned the words Extreme Caution. Separate solution bottles and droppers for each individual case, thoro cleansing of our hands before and after each case, and a general care such as one would bestow on virulent infectious exanthemata.

Thoro douching of the patient's eyes with boric acid or weak bichloride solution, and instilling a drop of cocain solution in the very sensitive eyes is the routine opening treatment.

Massage correctly applied does a vast amount of good. But how applied? Unfortunately, this is a matter of experiment and experience; the masseur must vary the amount of friction according to susceptibility of patient and progress of case, and herein lies the secret of success. Err on the side of too light and short continued massage and play safe. Applications most successfully used are: carbolic acid

and glycerine six drops to the ounce, and yellow oxide of mercury four grains to one ounce of vaseline applied to everted lids with cotton wrapped probe. For the less severe cases I have found nothing to excel the carbolic solution, and have used all applications suggested and otherwise.

Severe cases with pannus and ulcerated cornea should have an emollient protection; in these cases I use yellow oxide or similar applications, directing the patient to place a small amount in the eye at bedtime. Yellow oxide ointment should be used in very mild proportions, as one to four grains to the ounce of vaseline. Dionin has not proven very satisfactory; results obtained from its use have been problematic.

Immediately following massage, if possible, apply hot compresses to the eye for at least fifteen minutes followed by a dash of cold water medicated with a small amount of witch hazel. Much relief is oft times obtained by binding on cold witch hazel compresses at retiring time and allowing them to remain until morning.

The use of roller forceps has not played a prominent role in my treatment, altho the use of Kuhnt's expressor has in some cases proven a benefit. Particular attention should be given any condition which may tend to aggravate the diseased condition.

I well remember one case whose progress was slow until an ectropion was corrected and proper drainage of the eyes instituted. Dark glasses and goggles for photophobia and dust are necessary adjuncts, as are also proper lenses to correct optical defects. Correct any marked nasal obstructions and catarrhal troubles if possible to do so.

Ulcers accompanying trachoma should be curetted and cleansed with hydrogen peroxide. Very few cases call for cauterizing with acid or actual cautery.

Thiosinamine and graphites cerates are useful to dissolve scar tissue on the lids and may act beneficially on corneal opacities.

My cases get from one to three doses of aconite after each treatment. If we must select one drug par excellence for the usual case of trachoma, our choice must fall on kali bichromicum 3x, 30x and higher. Mucous surfaces are its favorite grounds of action producing an over abundance of mucus of a stringy nature and also a great amount of redness and swelling of conjunctiva with corneal ulceration of an indolent nature. Photophobia is not marked. Aqueous solutions may be used locally in clear cut cases calling for this drug.

Euphrasia comes to us accredited with marked photophobia, thick acrid discharge, epiphora, swelling of lids and possible phlyctenules.

Silicea will do wonders in cleaning up corneal opacities and I believe has beneficial effect on the scar tissue.

Graphites and calcarea carbonica are also to be thought of for these concomitant conditions.

Rhus tox. is called for by inflammation of the cellular tissue, chemosis, photophobia; a gush of tears upon opening lids is a leading indication, and a rheumatic diathesis further assists us in selecting the ivy poison.

Other remedies may require their selection from a more general symptomatology; nux, pulsatilla and mercurius for digestive disturbances and aurum, sulphur and arsenicum for their well known dyscrasias.

My feeble attempt has now been made and I trust generous discussion will assist us materially in combating this dread disease.

DISCUSSION.

G. D. ARNDT: The bulk of my observations on the treatment of trachoma has been in the clinics in New York and Philadelphia hospitals, and I found it to be routine to a degree. Mostly silver nitrate and blue stone, and an occasional squeezing operation. I must confess that the results were not such as to tempt me to submit my own eyes to such treatment. Many cases that had been coming for months and some for years showed concave cartilages with inverted lids—manifestly the result of heroic treatment. Dr. Clapp's caution in favor of mild treatment appeals to me very much. My private experience is so limited, in the treatment of trachoma, that it is with some reluctance that I present the following case to this society; I report it because it gives a hint of possibilities that no other treatment that I have seen offers.

This patient consulted me January 14, 1908, presenting the following condition: Ptosis very marked in both eyes, with very swollen upper lids—the head was thrown backward markedly in looking straight ahead; pannus was very marked with vision reduced, 20/200 doubtful.

I was unable to get a very satisfactory history, but it had been developing for several months and had had treatment of the routine variety at the hands of an Old School colleague of mine who is reputed as being an eye specialist, though he doesn't make any great claims himself.

I concluded that it would be necessary for me to do something out of the ordinary if I expected to do this patient any good. I had often thought that the proper use of the Roentgen ray might be beneficial in the treatment of trachoma and here was my chance, so I began at once and gave a treatment every other day, giving in all ten treatments of

five minutes' duration using a rather low tube—a Machlett safety at about five inches distance. Improvement was manifest after the first treatment and continued uninterruptedly for three weeks, at which time her vision was 20/20, the swelling of the lids entirely gone, the pannus cleared up and the eyes in apparently normal condition; they have remained so to the present time. Nothing but the Roentgen ray was used by me in the treatment.

J. IVIMEY DOWLING: In pannus I would like to emphasize the benefit to be derived from the use of dionin in strength varying from two per cent. to the crude powder. It is important to get your patient's confidence, and this can be done by beginning with a weak per cent. and then gradually increasing. There is nothing better so far as I know.

E. D. BROOKS: I have had very flattering results in chronic cases, especially where there is a scarred condition of the lids with resulting pannus, by rubbing powdered boric acid thoroly into the lids every other day. It will clear up quite a number of cases.

C. G. JENKINS: In about half a dozen cases I have used iodosyl powder with sterile gauze, scrubbing lids until smooth, with improvement in all and a cure in some. I followed up the office treatment with iodosyl ointment for use at home.

G. DEWAYNE HALLETT: For many years I used scrubbing with solution of bichloride 1/1000 with excellent and satisfactory results. During the last few years I have scrubbed with a solution of copper sulphate, 10 grains to the half ounce of glycerine; I have allowed the patient to have this solution after giving them instructions. To the patient this is called a stock solution and from it he makes a watery solution fresh each day by mixing one part to ten of water. In this preparation it seems very effective.

Optic Neuritis After Using "606" in Syphilis. Kowalewsky caused by injection of this remedy a severe syphilitic process promptly to yield; but a relapse took place in the form of severe headache, which lasted several days and was followed by optic neuritis. He believes the relapse occurred as a meningitis, which extended along the sheath of the optic nerve, finally causing a typical neuritis. The patient was then given mercurial inunctions, under which prompt recovery took place. The author presents this case as an example of optic neuritis occurring as a mere coincidence with the use of "606." He believes that the few cases of optic neuritis reported as having been due to the remedy do not bear sufficient weight to bring the remedy into discredit.—*Berliner klin. Woch.*, Nov. 21, 1910.

SOCIETIES.

AMERICAN HOMŒOPATHIC OPHTHALMOLOGICAL, OTOLOGICAL AND
LARYNGOLOGICAL SOCIETY.

To the Members:

The program for the twenty-fourth annual meeting of the American Homœopathic Ophthalmological, Otological and Laryngological Society is progressing rapidly and bids fair to be one of the most interesting the society has ever enjoyed. We are to meet this year with the Institute at Narragansett Pier, and

the date is June 25th to July 1st.

In a letter from Secretary Horner of the Institute we have the following as a slight indication of some of the pleasant things that are to occur during that week:

"We are arranging with the local committee to have the formal opening exercises, reception and ball on Monday evening, a clam bake or something else like it Tuesday afternoon, automobile ride, etc., Thursday afternoon and a formal banquet Friday evening. I am hoping that your plans will be such as to permit participation by your members in these entertainments provided by the local committee." You will readily agree that the possibilities contained in the above suggestions are great for a good time.

As has been announced formerly the scheme for our own program this year has been modified considerably from that of former years. The program this year will be largely made up of symposia upon various topics, handled by some of our ablest men. The following is a list of some of the valuable subjects to be treated: "Pathological Changes of the Optic Nerve," headed by Frank O. Nagle, of Philadelphia; "Diseases of the Ethmoids," headed by J. I. Dowling, of Albany; "Strabismus," headed by E. J. George, of Chicago; "Lymphoid Pathology," headed by W. H. Phillips, of Cleveland; "Vibratory Treatment of the Middle Ear and Tube," headed by E. G. Linn, of Des Moines; "Bronchoscopy," headed by F. W. Smith, of Philadelphia; "Labyrinth," headed by G. W. Mackenzie, of Philadelphia; "Ear Infections," headed by G. W. McDowell, of New York; "Blood Pressure in Its Relation to Disease of the Eye," headed by R. S. Copeland, of New York; "Enucleation and Its Substitutes," headed by A. E.

Ibershoff, of Cleveland; "X-ray Flash Treatment," headed by E. H. Linnell, of Norwich, Conn.; and a *Big clinic at Boston*, probably on Friday.

With the elaboration each of these subjects will receive at the hands of the several men taking part in each symposium, the program is bound to become one of the most thorough and interesting we have ever had. President Haseltine has been especially fortunate in the men he has secured to lead in these particular subjects, and we hope every member of the society will lay his plans so as to surely be with us next June. To those taking part in the program we desire to announce that an abstract of each paper must be in the hands of the secretary not later than April 1st, in order that they may appear in the May issue of the O., O and L. JOURNAL.

DEAN W. MYERS, Sec'y.

INTERNATIONAL CONGRESS.

February 3, 1911.

My dear doctor, please earnestly and actively co-operate with the members of the committee appointed by the Institute to stir up interest in and to assist in making arrangements for the International Homœopathic Congress to be held in London, July 17-22, 1911.

Doubtless there are those in your neighborhood more or less amenable to your influence who might be persuaded to attend the Congress and thereby not only help make a great success of the Congress, to the lasting credit of homœopathy, but obtain the unique pleasures, the broadening experiences and the cultural benefits to be derived from a trip abroad. There is urgent need to make the London meeting a phenomenal and memorable occasion, not only as to the number in attendance but as to the quality of the work accomplished. This can be done only by the fraternal and united action of the entire profession. Some must write papers, others must discuss them, and all who possibly can must go. If you cannot go yourself, persuade someone else to go.

Arrangements already have been made whereby parties of ten to twenty may enjoy before and after the Congress special tours thru some of the most historic, picturesque and renowned portions of Great Britian, France, Switzerland, Prussia and the Netherlands. These tours, of from thirty to sixty days' duration at a reasonable expense,

will bring one in touch with the novelties, traditions and customs of the old world civilization, will enable one to see famous works of art, to visit scenes of the activities of men and women who have moulded the destinies of nations, to enjoy some of the world's best scenery, and to stock the mind with memories that will subsequently prove inspiring, entertaining and restful. Itineraries suitable to the fancies and tastes of all may be obtained from members of the committee.

If you plan to attend the Congress independently, or if you desire to join a congenial party, please let the committee know at the earliest possible date. Our British colleagues having charge of the meeting are anxious to present a program in every way worthy of the cause and the Congress. Suitable travelling accommodations can be secured only well in advance of the date of sailing.

Let us hear from you with as little delay as possible.

Cordially yours,

J. P. SUTHERLAND,
For the Committee.

ABSTRACTS.

Roentgen Ray for Rhinoscleroma. A woman 53 years of age, general health good excepting her nasal affection, which dated back sixteen years. The pharynx was one mass of firm cicatrices, showing the disease had run its course there. The uvula was entirely gone, presenting the appearance of a cleft palate, bands of connective tissue were seen in the posterior nares. The nose itself was enlarged to double its normal size. The upper portion was broadened out and the lower part was one large mass, so that the outlines of the nostrils were entirely obliterated and the tumefaction extended down as a large projection almost to the upper lip. The writer describes the organ as looking like a globular mass, the skin red and tense, the lower part covered with large ulcerations which gave forth a watery secretion. The entire nose was stony hard to the touch and seemed fixed. The nasal passages were entirely occluded. A small piece was taken from the pharynx and sent to a pathologist for examination, which showed all the characteristics of rhinoscleroma. She was placed under the X-ray treatment for five months, with the result that the disfigurement was almost entirely removed. The nasal passages are still occluded, but Milton J. Ballin hopes that with a continuance of the treatment the obstruction will be entirely removed.

The treatments were given three times per week, with the tube three or four inches from the nose, for three or four minute settings only.

A shield covered the tube with the exception of an orifice two inches in diameter, thru which the rays were allowed to act upon the diseased organ. Dr. Stern, who gave the treatments, stated that it was much better to give short exposures with high frequency currents than long treatments with low frequency.—*Adv. Therap.*, Sept., 1909.

Indications for the Removal of Chronically Diseased Tonsils and Adenoids.

1st. When they are large enough to act as impediments to breathing, speaking or swallowing.

2. When they are subject to repeated attacks of inflammation, causing sore throat, tonsillitis, or colds in the head.

3d. When there are enlarged glands in the neck, following throat infections, especially in tubercular families.

4th. When there are ear symptoms, indicating the advance of a catarrhal process up the Eustachian tube; as earache, ear discharge, lessened hearing, and retracted ear drums.

5th. When the tonsil contains foul smelling, cheesy masses, showing retention of food, bacteria and degenerative products in the crypts.

6th. When the patient has had inflammatory rheumatism or its near relative, chorea. The history of these cases shows that over 90 per

cent. of them are preceded by throat infections, and it is believed the causative germ enters thru the lymphoid ring.—G. McBean, *The Clinique*, Dec., 1910.

The development of vision is dependent not upon the age of the child in months, but its age in development. A poorly nourished and very young infant often appears blind when the trouble is one of undeveloped vision dependent upon malnutrition.

While one child may be of school age at five years or less, another, less developed physically and nervously, may be as yet very immature as to visual development.

The insane desire to crowd the children in our schools and kindergartens is a menace to the welfare of their eyes; as physicians it is our duty to impress this fact upon the parents.

Puberty is another important period in relation to visual normality. While visual development has long since reached its height, the nervous unbalance attendant upon this period exerts a pronounced influence upon the visual function. This is more true of our girls than boys, but on the whole too much is required of the organs of vision of these adolescents, as is shown by the frequency with which asthenopic symptoms develop at this period.—Wm. E. Boynton, *The Clinique*, Dec., 1910.

Intermittent Roentgen Ray in Eye Disease. It seems to have been proven by the use I have made of it for the last six months that no damage can be done by them, neither have I obtained any information in quite a large correspondence that would lead me to think anybody else has seen any ill results from its use, even when the tube is entirely uncovered and the patient's face exposed, altho in my own practice I use a large lead hood over the tube and protect all parts of the face not under treatment by several thicknesses of lead mask. My interruptions vary from 60 to 150 per minute, and I have rarely used over 200 flashes at one treatment.

Mrs. J., nebulæ of both corneæ, which are irregular from past abscesses and ulcerations. All sorts of treatments have been tried and years of time have been allowed to lapse without perceptible results. One hundred and twenty flashes per minute have been given at irregular intervals for three months, with improvement quite marked in her ability to read the test letters in my office, and her ability to read and write at home, which before treatment was almost nil.

The refraction of the eye as read from the glasses that she was wearing was evidently a hypermetropia of 1. D. for distance, with presbyopia correction for near of 4. Since the treatment the vision has improved so much that the plus 1.00 fogs her, and she sees as well or better without any glasses, tho she prefers to wear a plus 0.25 for distance and the former distance glass, plus 1. is now sufficient for all reading purposes, and she can read and write quite as much as she cares

to in an ordinary home life. I attribute the improvement entirely to the X-ray.

As an example of acute conditions I want to report a case of acute corneal ulcer which has recently been under my care with classical treatment of atropin, antiseptics, etc., for central corneal ulcer, which apparently grew worse until the X-ray was used, when healing of the ulcer has been prompt, congestion diminished and a perfectly safe condition exists after half a dozen treatments.

A Greek laborer had been under treatment in the far west, with an eye so inflamed from iritis and a tumor of the iris, keratitis, glaucoma (secondary) and other complications that enucleation had been advised. The X-ray stopped the pain, reduced the tension and caused the tumor to practically disappear, so that the man went to work again, having preserved his eyeball, which was even more than was thought possible at the start.

Dr. Cook says that the general nutrition of the body is as much affected as the local organs treated, and it seems to me that it has been borne out in my experience that this is true, for several patients have shown marked physical changes; whether the local manifestations are the result of the general systemic improvement or of the local stimulation I am unable to state, but the results surely are encouraging and should lead us all to further trial of the intermittent Roentgen ray.—C. G. Fellows, *The Clinique*, Dec., 1910.

BOOK REVIEWS.

THE PREVENTION OF SEXUAL DISEASES. By VICTOR G. VECKI, M. D., Ex-President San Francisco German Medical Society, Member American Urological Association, American Medical Association, California State Medical Society. With Introduction by WM. J. ROBINSON, M. D. Cloth, 132 pages. \$1.50. The Critic and Guide Co., 12 Mt. Morris Park, West, New York, 1910.

One of the most important movements of the century, superior in importance even to the crusade against tuberculosis, is the rapidly growing recognition of the necessity for education as the prime necessity in the combat against contagious venereal diseases—"the great black plague." Its literature is "swelling visibly;" its speakers and writers say what could not have been said five years ago, and the prospects are bright for success.

The little book under consideration is an important contribution to the cause; it should be read by every physician and placed in every public library. It is not necessary to agree entirely with the author in order to work with him to lessen the damage done to humanity by contagious sexual diseases. "The naked truth hurts sometimes, but it is our only salvation. Instruction means teaching of truth. The truth must be told to everybody; to the children to begin with." What physician, especially what gynecologist, does not turn sick at heart when passing in mental review the pitiable victims of contagious sexual diseases which have come within his knowledge? Dr. Vecki considers it possible "and certainly will be accomplished some day, that every child born into this world shall have an equal chance."

Our author's argument for regulation of prostitution is the most convincing one that we have yet read; it furnishes strong arguments and facts against those who are so afraid of licensing, and therefore by implication approving (which is an entirely illogical implication) prostitution, that they oppose these efforts to lessen its evil consequences. A faint conception of the scope of the book may be had from the headings of its chapters: The reality of the Venereal Peril, The Sexual Diseases, Ignorance vs. Knowledge, Prostitution, Supervision vs. Open Door, The Government's Duty Towards Prevention of Venereal Diseases, The Physician's Duty, Individual Prophylaxis, The Physician's Prophylaxis.

We specialists see enough of the horrors of gonorrhea and syphilis to enlist our energies in the campaign of education, legislation and enforcement.

TREATMENT FOR DISEASES OF THE EYE. By DR. CURT ADAM, Assistant Surgeon, I. University Clinic for Diseases of the Eye, Berlin. With a Preface by PROF. VON MICHEL, Berlin. Translated from the

second German edition (1910) by WILLIAM GEORGE SYM, M. D., F. R. C. S., Ed., and E. M. LITHGOW, M. B., F. R. C. S., Ed. 264 pages, 36 illustrations. Cloth, \$2.50. New York: Rebman Co. 1911.

The handbook is of interest and value in that it gives us a glimpse of the Berlin treatment, supplementing Jessop's London and Hanke's Vienna books. Like the former of these it covers surgery as well as medicine, and is elementary enough for the general practitioner to find it eminently practical. In the chapter on Compensation for Injuries there is a table which indicates readily the rates of compensation for loss in varying degrees of working vision in one or both eyes.

Our author is up to date in that he states that "scopolamin is supposed not to cause increase in the intraocular tension, but too much reliance must not be placed on this, all the more that the drug is not always uniform in action." We would supplement this by offering in explanation of the above lack of uniformity the superficial, unscientific, assumption that scopolamin is therapeutically synonymous with hyoscyamin because they have the same chemical formula ($C_{17}H_{23}N_2O_3$); this, unfortunately, leads most of the manufacturing pharmacists to substitute one when the other is ordered. Scopolamin can, and should always, be manufactured from the broom plant, *Scopolia atropoides*, never from hyoscyamus. The reviewer is satisfied that some if not most of the dangerous effects attributed to scopolamin have really been due to hyoscin or hyoscyamin supplied by the dealer under the name scopolamin.

Perhaps the characteristic of the book under review is Dr. Adam's critical analysis of the relative value of various modern agents in ophthalmic therapeutics.

THE HISTORY OF MEDICINE, Philosophical and Critical, from Its Origin to the Twentieth Century. By DAVID ALLYN GORTON, M. D. Two volumes, 8vo. cloth, respectively, 436 and 497 pages. 37 illustrations. The Knickerbocker Press. G. P. Putnam's Sons, New York and London. 1910.

It is natural to measure the accuracy of a book—or at least to gauge one's confidence in it—by its statements of facts that fall within the reader's knowledge.

Homœopathy was introduced into America by Dr. Hans B. Gram in 1825. Dr. Gorton writes: "It was introduced in New York by Dr. Gram, a German, and Dr. Wilson, an Englishman, in 1833. It had of course been heard of before." He indexes "homœopathy introduced by Drs. Wilson and Gram." "It is needless to say," he continues, "that homœopathy did not spread with such amazing rapidity upon its merits, for little was known of it by the profession, and nothing by the public, but rather for its newness, and the love of novelty and the mythical by the people. Perkinism spread from the same causes."

The American Institute of Homœopathy was founded in 1844 "by several prominent gentlemen of the homœopathic persuasion, of New York city." "Its course has been criticised as being overpartisan and ultrahomœopathic; but it may be credited with exerting a strong influence to maintain the organization of homœopathy and to keep its members in line, whether for good or ill must be left to the future to determine."

Our author evidently means the allopathic or old school by the term "Hippocratican;" he states: "The Hippocratican societies wisely avoided such proceedings" (expulsion for heresy). "We have no knowledge in fact of their expelling from membership any reputable, thoroly qualified, or diplomaed physician for prescribing according to his judgment, be it small doses or large."

This is enough. It is a matter of history that the New York County Medical Society elected Dr. Samuel Hahnemann to membership and later expurged his name from its roll; can any one doubt that this was done because he prescribed "according to his judgment?" Dr. Gorton lived for years in Brooklyn. The reviewer knew personally Drs. Richardson and Perrine, of that city, and that they were expelled from the Kings County Medical Society because they announced the determination to prescribe homœopathically; they had been appointed by that society a committee to investigate the practice of the few regularly "diplomaed" physicians who were practicing homœopathy and, being convinced that it was a good thing, so reported and commended it. Such expulsions were so common that Dr. Gorton's ignorance is either willful or inexcusable. He was a member of the King's County (N. Y.) Homœopathic Medical Society from 1872 to 1908.

The New York Homœopathic Medical College was established "by apostates from the ranks of the Hippocratians. Its faculty was composed of old school men, or at least graduates from regular medical colleges," writes Dr. Gorton, yet on a preceding page his friend Dr. Egbert Guernsey is credited as being "largely the means of establishing the New York Homœopathic Hospital, the Homœopathic Medical College, and of having, at the suggestion of the author, a chair of the old school materia medica created for it." "The control of the college was at first under the high dilutionists."

The only homœopathists mentioned in this "History of Medicine" are Drs. Channing, Dudgeon (as inventing the sphygmograph), Gram, John F. Gray, Egbert Guernsey, Hahnemann, Hempel, Hering, A. K. Hills, A. Gerald Hull, Lippe, Neidhardt, A. E. Sumner, John Garth Wilkinson and Wilson.

The style of the book is discursive, the index fails to bring together the various places where a topic is discussed, and it is full of inaccuracies. The publishers have, as usual, done their part unexceptionally; paper, printing and binding are beautiful and the illustrations good.

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EDITORIAL.

DOCTOR OF OPHTHALMOLOGY.

THE first specialty in medicine which England has distinguished with a diploma is ophthalmology. Last July the University of Oxford conferred this degree, for the first time, upon eight out of fifteen candidates, among whom was Mr.—now Doctor—Sydney Stephenson.

The September, 1910, *Ophthalmoscope* describes the curriculum—which ran from May 4th to July 16th upon Wednesday evening and the afternoons of Wednesday and Thursday—and also the Inaugural dinner of the Oxford Ophthalmological Congress. In the preceding (August) issue may be found questions of the examination papers of the first day.

Candidates for this degree must be registered medical practitioners, or being graduates in medicine outside the United Kingdom their degrees must be approved by the Board of the Faculty of Medicine of the University of Oxford. In addition to that they must produce evidence of having studied clinical ophthalmology for a period of at least one year at a hospital recognized as adequate for the purpose by the same Board.

According to the "Contents" of *The Ophthalmoscope* for September one of the papers was written by "Sydney Stephenson, D. O.," but the author in his caption very properly styles himself "D. O. (Oxon.)," thus all unwittingly, we doubt not, freeing himself from any imputation of being a Doctor of Osteopathy. In this country the title D. O. stands for Doctor of Osteopathy.

Dr. Warren, Vice-Chancellor of Oxford University, is reported to

have said in his speech at the inaugural dinner of the Ophthalmological Congress that Oxford this year had "taken the lead by establishing a diploma in ophthalmology, *the first in the world.*"

Is this an additional evidence of Great Britain's insularity? We may fairly ask a gentleman of such distinguished position and character to weigh his words, particularly in response to a toast upon what some might consider such an epochal occasion.

As a matter of fact the University of Oxford has been antedated thirty years by the New York Ophthalmic Hospital College which, by virtue of an act of the legislature of the State of New York, has since 1880, been conferring the degree *Oculi et Auris Chirurgus* upon successful candidates who as a preliminary requirement hold a diploma of Doctor of Medicine, "said degree having been obtained at least one year previous to his applying for the examination for the degree of *Oculi et Auris Chirurgus.*" "The 58th" annual course of instruction of the N. Y. Ophthalmic Hospital extending from October 1, 1910, to May 15, 1911, comprehends three hundred clinical and didactic lectures and recitations and about two hundred hours of practical work in clinics, covering not only the theory but the practice of ophthalmology, otology, laryngology and rhinology.

The hospital proper treated during the year ending September 30, 1910, 1,336 resident cases, and its dispensary reported an attendance of 16,114 patients and 59,449 prescriptions.

We felicitate Oxford and the English profession upon the new course and diploma. It is an honor to hold the latter, but each year of practice demonstrates the intimate relationship between the nose and the eye, the nose and the ear, the nose and the throat, the ear and the throat, and we feel that a diploma that expresses the *best* knowledge of the eye should not be conferred after a course of instruction and practice limited to that organ.

CLOSED ETHMOIDITIS.

GEORGE A. DENMAN, M. D.,

Toledo, Ohio.

GALEN, 130 A. D., in his "Instrumentum Odoratus" first described the ethmoid sinus as "Two sievelike bodies the function of which he believed was to strain and filter a fluid secreted by the brain and which passed into the nasal cavities thru the ethmoid bodies." There was then no conception of the mucous glands nor of the nasal secretions.

In 1550 Berenger boldly contradicted the views of Galen, and denied that the secretion within the nose was the result of ethmoid filtration from the brain; he ingeniously explained the function of the cribriform plate and ethmoid bodies to be that of transmitting air and odors to the brain. For this he was attacked and insulted by the schools of the day for daring to dispute the authority of Galen or for criticising him in any other particular.

Schneider in 1630 upset these earlier theories and was first to attribute to the nasal mucous membrane and the ethmoidal sinuses their true function of secretion and olfaction. From the time of Galen, however, until very modern times, very little work was done upon the ethmoid cells, when, in 1891, Bosworth published a paper upon various forms of ethmoidal disease and Gruenwald soon followed with statistics of clinical experimentation upon fifty cases of ethmoiditis and distinguished the anterior from the posterior cells.

The term ethmoid means sieve-like and this descriptive word gives an idea of the fragility of the structure. Lying between the external wall of the nose and orbit they are bounded above by a plate of bone separating them from the anterior lobe of the brain—and it is here that one finds the thinnest partition existing between the brain and the nasal cavities. With separating walls scarcely thicker than tissue paper they extend from the orbital plate directly across the cavity of the ethmoid sinus to the inner wall or superior turbinal, thus dividing it into smaller cells or chambers.

The number of cells varies in different individuals, there are always at least two and there may be a dozen; they are always divided into

two compartments which are distinguished from each other by the location and method of drainage. These are the anterior cells and posterior cells.

All of the anterior cells drain into the middle meatus and the posterior cells into the superior meatus. All ethmoidal cells should be described as possessing a separate nasal opening and this is generally true, altho sometimes large cells apparently communicate, but in my experience this has invariably been the result of previous inflammation or partially developed septum, forming a diverticulum which gives it the appearance of a communicating cell. The division into anterior and posterior ethmoidal cells has not been universally accepted, some authors confusing students by the terms anterior, middle and posterior. However, the classification which I have chosen places distinctly all cells draining into the middle meatus as belonging to the anterior ethmoid and all those draining into the superior meatus as belonging to the posterior ethmoidal sinus.

There is absolutely no relation between the anterior and posterior cells except that of contiguity and if any communication exists it must be considered pathological.

Before passing to further discussion of the subject of this paper we will briefly consider the accessory ethmoid cells which may be developed in four different locations: in (1) the processus uncinatus, (2) the angular process of the ethmoid bone, (3) within the middle turbinal and (4) in the sphenoid.

The first three of these cells belong to the anterior ethmoid and the last one to the posterior ethmoidal sinus. They were formerly considered pathological but their presence is now explained as abnormalities of anatomy.

The anterior ethmoidal sinus, in common with the maxillary and frontal sinuses, discharges its secretion and is ventilated via the hiatus simulunaris. This being true, it is obvious that any conditions, anatomical or pathological, causing obstruction of the flow of the secretions at this point will interfere with the drainage and ventilation of one or all of these sinuses; as a result they will be predisposed to infection and inflammation and the resistance of the tissues decreased to a state below normal.

Predisposing anatomical abnormalities are usually (1) The nasal septum is frequently deviated toward the lateral wall of the nose in the region of the middle turbinal, often crowding it against

the maxillary wall and obstructing the hiatus. (2) The middle turbinal is frequently enlarged by edema, hyperplasia or by presence of accessory ethmoid cells as above mentioned and in consequence will block the hiatus. (3) The bulla ethmoidalis or uncinata may be enlarged by presence of accessory cells and serve as an obstruction.

Infection and inflammation of the ethmoidal sinuses are on the whole the same as within the main nasal cavity, but are distinguished by certain peculiarities which find their explanation in the anatomical deviations as above described and in their relation to important structures such as the eye and the brain.

Sequelar infections of the ethmoid cells have as their direct etiology especially influenza, acute coryza, pneumonia and scarlet fever. That these diseases occupy the foremost rank in producing sinus disease there can be no doubt. The question is, "How do the infectious germs reach the accessory cavities?" Possibly the inflammation is produced by extension from the mucous membrane as a result of continuity. Equally probable is it that the sinus was infected at the same time as the main nasal cavity, as we likewise see it in diseases of the middle ear and mastoid antrum. In either case the inflammation would be due to virulence of the micro-organism or to the unfavorable general or local somatic conditions.

Other causes are traumatism, foreign bodies, parasites, and often violently blowing the nose or sneezing whereby infected secretions may be forced into the sinuses.

Infection of the ethmoid cells is first followed by increased exudation of the entire lining membrane involved which at once becomes reddened and swollen; in some cases the reaction is so great that it becomes separated from the walls of the chambers, as in chemosis of the conjunctiva. The secretion rapidly changes from mucous to mucopurulent or purulent according to the results obtained in efforts to establish drainage.

If measures directed toward drainage and ventilation are successful, resolution ensues in a few days with no apparent damage remaining other than a slight predisposition toward recurrent inflammation. If the discharge of the secretion is continuously obstructed or impeded, there ensues a chronic suppuration, the secretions becoming thick, the openings growing narrow or occluded; the formation of polypi or hypertrophies in the neighborhood of the ostia, together with the deformities of the nasal cavities already considered, are direct factors favorable to such a termination.

This chronic inflammatory process presents two stages: (a) At first the mucous membrane is edematous; (b) Later it assumes a fibrous character, villous or warty excrescences on its surface, the mucous glands degenerate forming cysts, the bone becomes implicated, is thickened and osteophytæ are formed presenting a spinous or tuberos surface. The exudation is thick, purulent and fetid. The dividing septa are destroyed and the cavities filled and distended with polypi and cysts.

The course of the process of this stage determines whether there will terminate an "open" or a "closed" ethmoiditis; as the latter is the subject under discussion we must pass to its further consideration and consequently omit reference to many other conditions the discussion of which might have proven of great interest.

An open empyema of the ethmoid sinus becomes closed when the outlet becomes occluded or obstructed by granulation tissue, or most frequently by the wedging of a polyps within its ostium, and the discharge is forcibly retained as a cyst within the cell producing in time characteristic symptoms from pressure, or deformities from enlargement of the cell.

It is the closed empyema that perforates bordering cavities such as the brain and the orbit.

These cases do not discharge in the nose; the pus being retained within the group of diseased cells the pressure increases, they are distended and the walls deformed. If the pressure be exerted intranasally the middle turbinate is forced against the septum and the sinus walls of the anterior ethmoid cells are pushed over with it presenting a bulging surface downward and inward within the nasal cavity.

Previous to the stage of complete locking or obstruction of the drainage of the sinus the patient may not have sought relief, or if so may have only complained to the family physician, the most disturbing symptoms being the necessity of repeatedly blowing large quantities of discharge from the nose which affords little relief to the sensation of pressure and fullness in the region of the bridge of the nose.

In cases in which hypertrophic changes are marked the patient may be able to blow slight discharge from the nose, the greater portion being forced backward and being described by the patient as "dropping in the throat." As the symptoms usually trail as a result of some one of the acute diseases mentioned in the etiology they are often neglected by the patient and the family physician, being considered

unworthy of the special care and expected to disappear with the complete recovery of the patient. The discharge suddenly ceases or gradually disappears, but the marked and characteristic symptoms are immediately presented.

The ethmoid sinus has some very important relations; above lies the brains; outside, the eye; below, the nose and antrum; and behind, the sphenoid. The patient thus is at once placed in constant danger of septic infection.

Cerebral disturbances of a mild nature are soon noticed. Neurasthenia, confusion of ideas, listlessness, lack of application to employment, together with chronic headaches and pressure over bridge of nose, are frequently the first symptoms that aid in the diagnosis of the closed ethmoiditis.

At this time in my own experience I have found asthma to develop in almost fifty per cent. of the cases and, hoping to promote some discussion, I may divergently state that contrary to the belief of eminent authorities on internal medicine (Flint, Loomis, Fothergill) we are undoubtedly accomplishing much to bolster up the theory that nasal obstruction produces asthma, whether it is due to hyperesthesia of the fifth nerve—as contended by Bosworth—or to the belief of Fink and Francis who cure their cases by cautery of the septal mucous membrane and removal of the anterior end of the middle turbinal.

Various ocular disturbances soon harass the already miserable victim, and indeed so far overshadow all other symptoms that the patient is led to seek the ophthalmologist rather than the rhinologist for relief. In this class of cases we find as leading symptoms pain, steady or intermittent, contraction of the field of vision, general asthenopia, hazy vision, tenderness of the ocular muscles, while some authors describe certain diseases of the cornea and uveal tract directly due to ethmoid disease.

In cases of the forward protrusion of one eye we should at once suspect involvement of the posterior ethmoid cells even if nasal examination is negative. If the eyeball is pushed outward as well as forward, either the anterior ethmoid or the frontal sinus may be the seat of the disease. In several cases in which the pressure within the anterior cells was very great I have found a small tumor present at the inner angle of the eye which (in few patients who resisted immediate operation) increased in size and became fluctuating.

Burton Chance (*Annals of Rhinology*, Sept., 1909), reports a case

which was diagnosed exostosis of the orbit. Operation revealed closed cyst of posterior cells. Intranasal drainage resulted in prompt recovery.

One of the most important contributions to the literature of the ocular symptoms and complications of closed ethmoiditis is that of Birch-Hersfeld who believes affections of the optic nerve arising from this condition are frequent and lead early to optic neuritis. The damage is first seen as a central scotoma and its recognition he considers very important owing to the diagnosis of closed empyema being often difficult for the ophthalmologist who is usually first consulted, when immediate cause lies in the field of his brother the rhinologist.

Posey, discussing a paper of Holmes before A. L. R. and O. Society in 1908, reports a case of sudden loss of vision, nausea, headache, scotoma, delirium, with no nasal discharge—but upon opening and draining the posterior cells a large quantity of pus escaped, all symptoms immediately improving.

Prof. Kuhnt (*Deutsche Wochenschrift*, Sept., 1909) calls attention to and emphasizes the importance of the changes in the normal visual field in the differentiation of diseases of the sinus, urging the ophthalmologist and rhinologist to work together. He described as one of the earliest ocular signs in closed ethmoidal empyema the formation of a scotomal ring with a change in the perception of the red and green. The change, he believes, may be accounted for by the absorption of the products of suppuration by the mucous membrane involved, rather than from the mechanical pressure which in many cases is exceedingly great.

For some unexplained reason closed empyema affecting the posterior ethmoid cells has a greater tendency to perforate into the orbit than when the anterior cells are affected, while the latter more frequently perforates the brain cavity or into the nose itself.

Those cases which perforate the brain are ordinarily not diagnosed until brain abscess is well advanced; they are generally fatal and will not be further considered in today's discussion.

If the condition having its seat in the posterior cells is not early recognized and drained, perforation of the orbit is not at all uncommon. Especially is this true in children following scarlet fever or measles. The upper lid becomes immediately swollen and reddened, the eye is displaced and an exophthalmos results. The entire orbit area is tender and painful and an angry fluctuating cellulitis is soon

presented. My technique for the relief of this complication has for some time been that described by Hajek and modified by Douglas in which a curved incision from the root of the nose is extended upward over a third of the orbital roof, separating the periosteum with a Hajek elevator with which instrument one can work backward along the inner orbital wall until the source of the pus is reached; entering at this point the operator is invariably within the posterior ethmoid cells and free drainage may be established thru the nose.

I have several times successfully employed this same method in abscess of the orbit following, as a complication, operation upon the ethmoid in which the orbital wall was unintentionally perforated; beside the resulting emphysema septic material from the field of the operation entered the orbital tissue and terminated in abscess formation.

Closed empyema of lesser importance frequently occurs within certain of the ethmoid cells, where they do not tend to become dangerous, by extension or perforation. Such empyemata are excellently described by Douglas in his *Nose and Throat Surgery*, 1908. He believed them frequently to exist for years within the bulla ethmoidalis, (2) in the cells of the processus uncinatus, (3) in the accessory cells of the middle turbinate, without producing symptoms marked enough to demand attention.

My experience with such processes has only been in the middle turbinal; when removing the anterior end because of its size I have in several instances found it to contain pus and on three or four occasions small polypi.

When diagnosis of closed empyema has been made, early operation should be advised providing there exists no great contra-indication.

The diseases of the ethmoid cells are among the most tedious that the rhinologist encounters. Some cases continue to discharge pus despite the greatest skill and care but in most cases results are brilliant; with recreated mentality, the depressed condition of which he could not appreciate while a victim of the disease, he becomes again feverishly glad of the privileges of life and attacks the arduous duties of his occupation with renewed energy.

It is not my intention to describe any particular technique or praise any certain method of operation for the relief of the subject under discussion.

The diagnosis being confirmed, any procedure directed toward open-

ing, drainage and ventilation of the diseased cells that suits best the individual case is the one that should be employed.

Some one told me a year or two ago of the use of Killian's long septal speculum which, inserted between the middle turbinal and the lateral wall of the nasal cavity, can be used to hold the middle turbinal away from the hiatus and allow the opening and destruction of the diseased anterior cells without removal of the tip of the middle turbinal. This has been most valuable to me and prevents the necessity of subjecting a new surface to the purulent area, as well as allowing much more room for the cutting forceps and the means of better illumination than did my previous procedure.

421 Ohio Building.

DISCUSSION.

FRED. C. SAGE: In our essayist's history of the topic, he goes back to Galen, 130 A. D., and other early writers. While it is all right, it seems to me that what was the understanding and treatment of these cases so late as fifteen years ago would be ancient history now. I want to emphasize the point that the knowledge of these conditions has increased as rapidly lately as any other branch of medicine. But the author's paper is up to date.

The subject of the paper, Closed Ethmoiditis, is a restricted subject. I think that is always a good idea. But there is this difficulty, you can restrict your sinus trouble much easier on paper than you can in your patient. Your case of closed ethmoiditis would long previously have involvement of other sinuses.

FRONTAL SINUSITIS.

JOHN T. CREBBIN, M. D.,

New Orleans, La.

IT may not be amiss to give a short review of the sinus and some of the more common causes of the disease. The frontal sinus is a prolongation of an anterior ethmoidal cell, appears during the second year and is fully developed at five years of age. They are located on each side of the median line of the forehead over the eye-brow, and are pyramidal cavities lined with mucous membrane, and continue with the nose by means of an opening from each sinus.

A well developed case of sinusitis is quite easy to diagnose, owing to the characteristic intense brow pains with tenderness aggravated by percussion or pressure above the inner canthus of the eye. These pains usually occur with marked periodicity. However, it is those cases which do not have the above distinctive symptoms which are easily overlooked.

Many cases of internal eye disease in connection with sinusitis have been reported; Wedge, in 1786, cited by Berger and Tyrman, reports the earliest recorded case.

The obstruction to drainage may be caused by a swollen external wall of the middle turbinated body, swollen tissues of the hiatus semilunaris or the adjacent processus uncinatus or bulla ethmoidalis, or a small polypus developed in this region; this causes venous stasis and often an accommodative paresis, inflammation of the iris, retina, choroid and optic nerve, conjunctiva, and I believe it is the principal cause of glaucoma.

One of the early ocular signs is a change in the perception of red and green in the formation of a scotomal ring which may be closed or broken.

We are familiar with the routine practice in treatment of these cases, consisting of cleansing the parts, the use of a weak solution of cocain, adrenalin, argyrol, etc., probing or syringing. The removal of any polypi or of the anterior end of the middle turbinate is in order that better access to the infundibulum may be had.

The following cases I hope will be of interest:

CASE I. Lady, about 62, reported May 14, 1907, with the following history: about thirty years ago had an "attack of paralysis" of the entire left side, was kept in bed for a few months, then was able to walk. Side felt numb for many months. Has always suffered with catarrh. January 17, 1907, while in Pittsburg, Pa., a mist suddenly came before her left eye, with intense pains. She visited her family physician, who referred her to an eye specialist, and she was treated for a while. She then went to Chicago and sought the services of a specialist; after being treated there she came to New Orleans and was treated in our Senses Hospital. She was urged to have the eye removed so as to save the other eye and, possibly, life. The same advice had been given her in the other cities but, refusing the operation, she was referred to me. I found, beside the above symptoms, that there was an aggravation every two or three days and that the pains were always relieved by the nose discharging. Also that the patient was worse in wet weather, that she had spots before the eyes and was compelled to remain in a dark room.

The examination proved that the sight was lost in the left eye; tension $+ 3$; pupil dilated and, because of the intense cloudiness, it was impossible to examine the interior.

The diagnosis was glaucoma. I told her husband that in my opinion there was only one thing to do and that was to remove the eye. Because of her weakened condition I hesitated to operate, fearing she would not survive, so in desperation I decided to treat the left sinus, which was done.

In connection with the treatment the leucodescent lamp was used, but as this caused an aggravation it was discontinued after the second treatment.

I was much gratified to note an early improvement in her condition, the intense pains disappearing and, instead of having to be lead about, she went alone and discarded several heavy dark veils she wore previously. The tension was reduced to $+ 2$ and all signs of the other eye being affected subsided. She was treated in all about twenty times during May, June and July, 1907. On the 14th of November, 1907, she reported for glasses and had had no further pains.

During the month of January, 1908, she had an attack of grip, but suffered no ill results. About January, 1909, her husband came to the office and reported that his wife never suffered with her head or eye, and that the other eye had not troubled her; altho she had travelled

extensively and spent the winter in Pennsylvania, she had suffered no inconvenience.

There are several points of interest in this case. In the first place, had the supposed "attack of paralysis" an effect on the fact that it was the left eye affected? I believe it was only incidental.

Second, the specialist in every city had made the same diagnosis and had advised the removal of the eye, but none had examined her nose, and the sinus, as being a factor, was overlooked. I readily appreciate that the internal remedies and the eserine sulphate used helped, or a spontaneous cure might be claimed, but the fact remains that the other eye showed positive and alarming sympathetic symptoms, so I am led to believe that if the sinus had not been treated and the pus evacuated, she would have gotten worse and died. I confess that this treatment was resorted to only because I was afraid she could not survive an enucleation.

CASE II. Lady, aged 76, during the month of June, 1906, was brought to my office with the following history: had suffered with excruciating headaches over both eyes as long as she could remember. Twelve years ago both eyes became inflamed and very painful, for which she was treated but got no relief, and the sight was gradually disappearing. Finally, seven years ago an iridectomy of both eyes was performed so as to relieve her sufferings and save the remaining sight. This had no effect upon the pain and within one year the last vestige of sight was lost.

The examination showed pus in the infundibulum, on both sides; tension + 3. The retinoscope showed typically glaucomatous eyes. All pains were aggravated by pressure and tapping over the eyes.

I told her family that the sight was hopelessly gone, but that her sufferings might be relieved; with this understanding I proceeded to promote drainage. She responded almost immediately and it was gratifying to note the good results in this case, for after several months' treatment she ceased having pain in her eyes or head and the tension was slightly reduced, proving that there was absorption.

She reported being able to count the lights on the altar at church. Any way, after several months of treatment she was able to follow and locate rays and flashes of light in my office.

Inasmuch as she had no further pain, I then concluded nothing more could be done, and she was accordingly discharged.

From this time until October, 1907, she had no pain. It was then

I was sent for. Reaching her home I found that the left eye had ruptured, this occurring while conversing with friends, when suddenly she had a knife-like pain with the above result.

I found she had been using for some time a hot poultice, prescribed by some old woman who promised this would restore her sight. I ordered her removed to the hospital for enucleation, but as her relatives refused to send her from home I withdrew from the scene.

I am convinced that sinusitis was the direct and only cause of this case of glaucoma of both eyes and had this been recognized and treated she would probably have retained her sight. The interesting feature is that after so many years' duration relief could be had at all.

Phosphorus was the remedy used.

CASE III. Lady, aged 40, reported September 17, 1909, with the following history: Had had "terrible headaches" for over 25 years on an average of every two weeks, compelling her to keep in bed in a darkened room for from two to five days. About fifteen years ago she had both ovaries removed, the gynecologist at the time promising that the headaches would disappear. This of course had no effect. For the last eight years the attacks were worse and more frequent until, within the last two years, she has been unable to leave the house at night. She belongs to a family of physicians and has been treated constantly by neurologists, gynecologists, oculists and laryngologists; has had glasses prescribed and changed regularly every few months for years. One physician advised removal of the ophthalmic nerve. Recently she has suffered with articular rheumatism.

This was a pitiful case; an exile from church, society, and denied reading and pleasures of all kinds.

Examination showed both pupils dilated. The retinoscope revealed some cloudiness, slight opacity and engorgement of the vessels. Tension in each eye $+ 2$.

Nasal examination showed nothing abnormal, but a well developed and uniform interior, and absolutely no signs of a discharge.

Diagnosis: glaucoma, secondary to sinusitis.

The treatment was the same as in the other cases. I prescribed *spigelia* 12x, and told her to report next day.

At the second visit the anterior end of the middle turbinate had evidence of some pus. She received the same treatment every day for about one week, then every other day, finally once a week. The only change I have made in the treatment is occasionally to insert a

pledget of cotton, saturated with a 20 per cent. solution of argyrol, well up into the infundibulum. Quite recently the internal remedy has been *natrum muriaticum*.

In regard to this case, altho not entirely well she is so much improved that she now sees, reads, goes to church and places of amusement, and was able to view the carnival parades last February, something she has not done for many years. She has discarded her glasses altogether.

The remarkable feature of this case is its duration and rapid response to treatment, and the fact that the diagnosis was apparently overlooked.

In a large percentage of headaches where there is no apparent cause, always think of them as being caused by sinus trouble. There may be absolutely no pain upon pressure or no evidence of pus, however this should not deter one from looking further, for in all cases of doubt suspect the sinus.

All have had cases where glasses were prescribed with or without mydriatics and have been sure of the correctness of the prescription, and had our patient return in a few weeks with the statement that the glasses were of no help or they are not as satisfactory as at first. The next time think of sinusitis as being the cause.

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DISCUSSION.

E. W. BEEBE: Appreciating the fact that this paper, with claims for the cure of absolute glaucoma by the treatment of frontal sinusitis, opens up one of the most important subjects which will be likely to come before this convention, it is to be regretted that the writer did not elaborate the subject and present it to the society in a more complete form. By so doing the paper would not only have been a credit to the writer but it would have been in desirable shape to bring out a more complete discussion.

As it now stands it is difficult for one to discuss it in a satisfactory manner, from the lack of details connected with the history and treatment of the cases cited; as it is not my desire to unduly criticise the paper I regret I cannot commend it in its present form or endorse the writer's statements without more or less of fault finding.

It has the appearance of having been hastily prepared, and does not, I believe, do the writer justice; the cases cited are exceedingly interesting ones, and the fact that they were cured in the manner mentioned makes them of unusual interest, whether they were or were not cases

of glaucoma; but without details of treatment they lose much of their value—so much in fact, that it is believed that by accepting the writer's statement simply, without protest or further proof that they were cases of glaucoma and were cured by treatment directed to the frontal sinus—which is not given—with the experience of the profession everywhere to the contrary, would put this society in a bad position and detract from the standing of our scientific work.

We, as homœopathists, are accused, and rightfully so I believe, by our friends of the dominant school with drawing the long bow and ascribing miraculous and impossible cures to the efficacy of our remedies when prescribed according to the Hahnemannian law; this fact has probably more to do in the prevention of its universal adoption by the profession at large than any other cause, and it behooves us as exponents of that law to be modest in our claims, if we expect to make progress in forwarding homœopathy.

To make this paper of exceptional value to the society, there are several important questions involved which should have been elucidated in the text, some of which I will briefly mention.

- 1st. It is *very* essential in a paper of this kind that the complete list of symptoms be given, which led the writer to diagnose these cases as glaucoma.
- 2d. In the absence of all symptoms in case one, what led him to think that disease of the frontal sinus was the cause of the blindness rather than that of the nasal condition from which she had been a sufferer for an indefinite period?
- 3d. Was local or operative treatment resorted to, to bring about these marvelous results? Presumably it was operative, as in cases of such severity and duration simple cleansing of the nasal cavity would hardly be likely to produce drainage such as would prevent relapses.
- 4th. It would be of interest to know what advantage the retinoscope has over the ophthalmoscope in fundus examinations, also what the "typical appearance" of the interior of the globe is like in cases of absolute glaucoma.
- 5th. In the absence of evidence of sympathetic inflammation of the right eye, in case one, why was it considered necessary to remove the left one to save the sight in it "with possibly life itself," as stated?
- 6th. Why hesitate to remove a blind eye in any case, when certain that severe constitutional disturbances such as those mentioned were caused thereby?
- 7th. Why was it necessary for case one to be led about by an assistant while having the use of her right eye?
- 8th. How does he account for the excessive photophobia, requiring the wearing of several dark veils, in an eye blind from glaucoma?

- 9th. By what means is it possible to diagnose frontal sinus disease, in the absence of pain, soreness, and discharge? And are we to understand that in *all* cases of glaucoma we should treat the frontal sinus regardless of symptoms? If so, how?
- 10th. How is it possible for sight to be restored in a case of absolute glaucoma—a name which has been given these cases when they have arrived at the third stage, or that where blindness exists,—when it is known that before that stage is reached certain changes have taken place within the globe which render it impossible for sight to be regained thereafter.

It is generally understood that there are several diseased conditions of the globe which simulate somewhat the symptoms of glaucoma, including papilloma, chorioiditis, neuroretinitis, some of which are of such severity as to produce more or less blindness; these diseases not infrequently accompany sinus disease, but often other nasal affections as well and under favorable conditions they are curable. I am inclined to the opinion, in the absence of further proof, that some one or more of these conditions were present in the cases reported, and were mistaken for glaucomatous disease.

In presenting papers before technical societies I have frequently been reminded that the only safe rule to follow if one desires smooth sailing to avoid criticism is never to make a positive assertion concerning any subject one may have to present, and some very recent experience has added weight to the belief that it is not conducive to one's reputation to be too certain of one's position or too positive in one's statements in any case pertaining to the practice of medicine.

Pardon me therefore for briefly presenting a case, somewhat foreign to be sure to the subject under consideration, but it illustrates the point I wish to make and shows how easy it is for all of us to make mistakes.

A maiden lady of mature age consulted me a few months since for an angry looking growth on the lower margin of the right eyelid; it was somewhat fissured, moist, itched intensely, and frightened her by its rapid growth. I unhesitatingly pronounced it an epithelioma, and stated further that no kind of treatment was considered effectual in such cases except an early removal by the knife—that all kinds of treatment other than this had been tried in innumerable cases of this kind and that her only safety lay in its thoro removal as above stated.

She was considerably frightened, and readily consented to have it taken care of as suggested. Hospital rooms were engaged and a date set for the operation, but on the morning of the day selected I received a letter from her—she lived in an adjoining city—saying she was so badly frightened at the thought of a surgical operation that she believed she would postpone it until she had tried the virtues of somebody's plaster, which had been recommended to her for the cure of such cases.

To say I was disgusted with her for her lack of faith and confidence in my convictions, would be putting it mildly, and I had visions

at once of an aggravated and altogether undesirable condition of the eye for favorable results, in a future operation, after valuable time had been so foolishly lost by the trial of such a remedy as proposed.

You can imagine my surprise then, not to say humiliation and chagrin, when she presented herself at my office some two months later without vestige of the tumor left—with no induration nor scar tissue of sufficient magnitude to be noticeable. The cancer plaster had done the work; the skill of the quack was in the ascendancy and the eye surgeon taught a lesson long to be remembered. For one of two things I was up against and forced to admit—either I had made an egregious blunder in diagnosis, or else cancers of the eye lids are sometimes cured by local remedies, neither of which redounded, I am sorry to say, to the credit or skill of the eye doctor. If I had had the forethought or good sense to have hedged in my statements and been less positive in my assertions, it would have been better for my reputation. This brings me back to the discussion of this paper; as it now stands Doctor Crebbin has apparently made the greatest discovery in medical science of the age, which will not only redound to his credit but will prove of inestimable value to the world, or else he was mistaken in the diagnosis of these cases, and speaking from my standpoint and with the utter failures I have made in the treatment of similar cases, I believe the burden of proof is against him. I will not assert positively, however, that absolute glaucoma *cannot* be cured by treatment of the frontal sinus, but of this I have my doubts, and had I been so lucky as to have been the one that cured these very interesting cases and had prepared the report for this society, with my recent experience I would probably have hedged and said something like this—"so closely did these cases resemble absolute glaucoma that they had been pronounced such by several Chicago experts, and the writer himself was unable to make a differential diagnosis between the two conditions.

No one could take exception to a statement of this kind; the discussion would have been confined to the point of interest in the paper and the discussers would have been spared the unpleasant duty of protesting against claims for cures in a condition which is believed to be incurable.

E. D. BROOKS: I read a paper this afternoon regarding the non-operative treatment of diseases of this sort. You will remember that most of my cases recovered without operation, by the restoration of the opening from this sinus to the nasal cavity. As soon as you get free drainage the trouble ceases. That is the ideal treatment.

NONOPERATIVE TREATMENT OF THE ACCESSORY NASAL SINUSES.

E. D. BROOKS, M. D.,

Kalamazoo, Mich.

THIS paper will purposely omit mention of such cases as are dependent upon the projection into the sinus of diseased roots of teeth, as well as those resulting from external violence, with infection or the retention of foreign bodies, spiculæ of bone, etc., also cases with denudation of bone, fetid pus, polypi, etc., necessarily operative. This leaves for our consideration by far the most frequent types of sinus diseases, the acute and chronic inflammations, consequent upon or coexistent with similar types of nasal catarrh.

The cause of sinus inflammation is not far to seek, usually extending by continuity of tissue from the nares or being simultaneously affected by the same cause which produced the rhinitis.

The symptoms are sometimes obscure, but usually consist of a feeling of fullness or heaviness in the region of the affected sinus, with occasional discharge of at first a yellow-green water, sometimes fairly gushing from the nostril, with partial relief of the distress for a time. Gradually the discharge becomes thicker and gluey or in masses hard to dislodge, with increasing distress in the region affected. Not seldom the eye or teeth or other adjacent organs share the distress, from encroachment or pressure or nerve distribution.

The diagnosis is made from the symptoms above detailed, corroborated by the illumination test, the affected sinus failing to transmit the light from the mouth or, in case of the frontal sinus, the light held against the superior inner orbital wall. Failing to find evidence of involvement of the other sinuses by the means mentioned, yet with certain signs of sinus disease, the sphenoid is to be suspected. Posterior rhinoscopy is usually possible after a little training of the patient's throat to tolerate the mirror. Should the nares be wide and the middle turbinal not obstruct the view by anterior rhinoscopy, the discharges may be seen flowing from the openings.

In treatment the first consideration is drainage. As long as the natural orifices are able to furnish an adequate outlet for the secretions,

there is no more distress or danger than occurs in similar types of rhinitis, but once the outlet is narrowed by swelling of the mucous membrane lining the same, or by pressure of a swollen turbinal, there quickly follow the symptoms of swelling and tenderness over the site of the affected sinus, with deep-seated pain in the sinus, often fever, restlessness, neuralgia, soreness of teeth on the affected side and mental inertia.

Since the introduction of the extract of the suprarenal capsule, the reduction of swollen mucous and submucous tissues needs only an application of a 1 to 1000 solution to the tumefaction for a limited time. In my experience it is best applied by means of a slender probe with a very small bit of absorbent cotton firmly wound on its tip. In very sensitive patients the suprarenal extract may be reinforced by a 2 per cent. solution of cocain muriate. The point of application should be at the opening of the maxillary sinus, the common point of outlet of the various anterior sinuses. This is found in the middle meatus, external to the anterior third of the middle turbinal, between which body and the inner wall of the antrum of Highmore the cotton-wound probe must be pushed. Sometimes it requires a good light and some persistence on the part of the surgeon and fortitude on the part of the patient to accomplish this simple procedure. The use of the astringent application should be followed by an inflation similar to that used in Politzerizing the middle ear, preceded and followed by a vigorous blowing of the nose by the patient, to clear away the discharges.

In conjunction with the treatment above outlined, I always prescribe a drug corresponding to the symptoms elicited from the patient.

For acute cases, with loss of taste and smell, yellow, watery or thick, abundant mucus, pulsatilla, usually in the 3x potency, is administered, a dose every two hours. Later on in the attack, when the discharge is sticky and stringy, especially if the frontal sinus is affected, with heaviness at root of nose, tenderness over eyebrow and severe pressive pain in the region of the inflamed sinus, kali bichromicum is given, in the 3x potency, every two hours, or a higher potency, less frequently administered, if the case is chronic. Other remedies, any one affecting mucous membranes, may be indicated, but pulsatilla and kali bichromicum have thus far sufficed for my cases.

C. W. O., merchant, 40 years old, spare, light hair, blue eyes, applied for treatment September 19th, 1908. Subject to recurrent attacks of frontal sinusitis. Had had the anterior third of right middle

turbinal removed by another rhinologist. There was much tenderness on percussion over the sinuses, a profuse discharge of gluey, stringy mucus from both nares—the right one worse. Patient otherwise healthy. The treatment was given as outlined every other day for five weeks, with kali bichromicum as the internal remedy, when the patient was discharged cured.

Patient returned November 18th, '08, with a recurrence of the sinusitis, when the same line of treatment brought relief after four sittings. Again, on December 26th, of the same year, the patient had a second recurrence, obtaining relief from three treatments. Since that time there has been no recurrence of the trouble until April 8th, 1910, when he returned from a trip to the northern peninsula of Michigan with another acute attack of about a week's duration. There was much pain in the affected region. The same line of treatment was instituted, with the addition of a one minute application of the high frequency current over the sinuses, which gave complete relief from pain and greatly relieved all the other symptoms. A second treatment April 9th gave so permanent relief from pain and tenderness that it was not thereafter necessary to use the high frequency current. At this date, April 11th, 1910, the case is rapidly recovering.

Mrs. W. H. P., housewife, 38 years of age, slender, dark hair and eyes, sickly appearance, was referred to me by her family physician for a severe pain in and intense redness of her right eye, with little or no discharge. The cause was discovered to be disease of the maxillary antrum. Astringent applications to the outlet gave prompt relief to the pent-up discharges with rapid improvement in the condition of the eye, so that in a week the eye had returned to its normal condition. The discharge, at first abundant, thick and yellow, gradually diminished and then ceased and there has been no recurrence to date. Pulsatilla 3x was prescribed for the classic symptoms of that drug.

These cases are typical of the many which seek relief at our hands, and which may usually be cured by these simple expedients.

One maxillary antrum case had been operated by a dentist, extract the first molar and drilling up through its socket, would improve as long as kali bichromicum was taken, and promptly have an aggravation when the drug was discontinued. The patient volunteered the opinion that the drug did him more good than the syringing of the sinus.

In sphenoid sinus disease the astringent applications are not so readily made, but may be carried by a slender probe to the orifice over

the posterior end of the middle turbinal. Hydrastis is apt to be indicated in affections of the sphenoid sinus, though either of the other remedies named is quite as liable to be of service, according to symptoms.

210 Kalamazoo National Bank Building.

DISCUSSION.

GEO. M. McBEAN: I have found no trouble in cocainizing the orifices of the sinuses by the use of pledgets of cotton packed about the middle turbinal. It seems to me that the essayist uses a very strong solution of adrenalin, it is too strong; we use it in the strength of one to five thousand or to ten thousand with good results, and without the secondary congestion that follows the stronger solutions. It takes more time by my method than it does by Dr. Brooks' but I think the absence of pain and of secondary reaction are worth waiting for.

C. C. COLLIER: I think that Dr. McBean is entirely right in regard to the strength of the adrenalin solution. I know from my own experience that one to one thousand is too strong, it gives a reaction in a few hours which is worse by a good deal than if it had not been used at all. A solution one to five thousand gives an effect that is as lasting as the stronger solution and is safer because it has a much milder reaction. Dr. McBean saw a case with me of a brother physician with adhesions in the nares; a skiagraph had been made which showed extensive adhesions. An old school man who had been called in advised immediate operation claiming that it could never be reduced by ordinary methods. I took the matter in my own hands, proceeded to use a four per cent. cocain and adrenalin solution and broke up the adhesions. I used simple straps saturated with ichthyol and glycerine. Much to my satisfaction the pains became less; he had suffered for a week. The next day I repeated the application. In a short time the man was absolutely well and there has been no recurrence. The nose was not tightly packed, not tight enough to stop drainage.

DR. LEWY: Troubles of an inflammatory nature in the sinuses are more common than is generally supposed. The majority of common colds are associated with trouble in the sinuses and the great indication for treatment is drainage. This is obtained in the manner suggested in the paper, but I use the modification in the solutions indicated by Dr. McBean. Trauma is to be avoided as much as possible, as it is likely to set up increased inflammation and block the orifices with secretions.

In using the Politzer method there is danger of carrying the infected material up the Eustachian tube. I would also like to speak of the frequent indications for gelsemium in these cases; it is a very useful remedy for painful conditions of the sinuses. I also use argyrol carried up on a cotton carrier, using somewhat the technique described by Dr. Dowling.

E. D. BROOKS: I have not perceived any bad results from the use of a one-in-one-thousand adrenalin solution; it may be that I shall meet such results later, but I have not as yet. I have used five per cent. of camphor menthol solution with the idea of prolonging the effects of the adrenalin. If I use the Politzer method, of course I am careful to wash out all secretions first.

Partial tenotomy was originated by von Graefe (1861), revived by Abadie (1880), perfected by Stevens (1883), simplified by Ziegler (1891), elaborated by Verhoeff (1893), and modified by Todd (1907).

Complete tenotomy with suture exposes the patient to the danger of a faulty reattachment of the muscle, of an axial rotation of the eyeball, or a marked overcorrection of the error from slipping of the sutures. The ultimate object of partial tenotomy, as applied to low grade errors, is to secure orthophoria thru an operation that would permit us to obtain minutely graduated effects without the danger of producing torsion of the globe. This could be best accomplished thru a bilateral partial tenotomy, with the preservation of a central fasciculus that could be thinned down until a measurement of orthophoria was secured.

Operative Technique. The conjunctiva is incised, the tendon made tense with the hook, and each lateral third of the tendon completely divided. The remaining or central third is then gradually clipped across the top until relaxation is felt. The speculum is removed and the result measured by the Graefe test. If necessary, the clipping is repeated until orthophoria is secured. If the error is large, the correction should be divided between the two eyes. An effect ranging from $\frac{1}{2}^{\circ}$ to 8° may be secured with proper care. By the employment of this method the motility of the eyeball is undisturbed, the traction power of the muscle is retained, its insertion is unchanged, and vertical tilting of the axis is avoided.

The use of the illuminated Greek cross test-object will enable the operator to make reliable measurements by the Graefe method in spite of the corneal haze resulting from blood and cocain. There is complete dissociation of the two images and the patient can accurately line up the vertical deviation by the horizontal arms of the cross, or the horizontal deviation by the vertical arms of the cross.—S. Louis Ziegler, *Oph. Rec.*, Feb., 1911.

S. D. Risley was inclined to the belief that Dr. Ziegler's success was due to the thoro detachment of the tendon from the underlying sclera by the rending of the attaching connective tissue fibers with the strabismus hook. This permitted the stretching backward of the fibres of the tendon.—*Ibid.*

Dr. Ziegler, replying, said that there was no evidence in von Graefe's writings that he had recanted his views as to partial tenotomy.

REPORT AND DISCUSSION OF A CASE OF LABYRINTHINE FISTULA.*

GEO. W. MACKENZIE, M. D.,

Philadelphia, Pa.

THE present paper is a supplement to one read at the Ohio-Michigan Homœopathic Medical Society Meeting at Toledo, May, 1909, and published in the *Homœopathic Eye, Ear and Throat Journal*, August, 1909. The writer, therefore, will purposely omit much that may be found in the former publication and proceed directly to the report and discussion of a typical case of labyrinthine fistula studied over a prolonged period.

When comparing the history, findings and ultimate results of the present case with other similar cases of labyrinthine fistula, treated after the same manner, the writer finds so much similarity that he could just as well have selected any one of the other cases.

THE CASE.†

Name—R. W.

Age—27 years.

Occupation—Clerk.

Diagnosis (made prior to and substantiated at the time of operation)—Otitis Media Suppurativa Chronica Sinistra et Cholesteatoma et Fistula Labyrinthi (external semicircular canal).

Treatment—Mastoid operation after the Zaufall method, removal of the cholesteatoma and plastic after Panse.

History—Discharge from the left ear since third year of life. Patient is unable to recall how the discharge first began or whether it was preceded by any other disease. From the third year until two

*Presented to the New York State Homœopathic Medical Society, in Albany, February, 1911.

†I am indebted to Professor Alexander, of the Vienna Polyclinic Hospital, for the opportunity allowed me to study this along with the other similar cases. It was my privilege, while acting as Zimmerarzt under him, to examine, study and write up the cases before operation, to take part in the operations and to look after the after-treatment.

years ago the discharge continued without interruption. Two months ago (June, 1907) the left ear started to discharge again. Two weeks ago the patient experienced dizziness for the first time. Every movement of the body and walking brings on an attack of dizziness which prompts the patient to seek a quiet position of the body, when the dizziness becomes less intense or disappears altogether.

With dizziness the patient experiences a sensation of turning and swaying. When questioned, he disclaims any sensation of movement of external objects. The patient has been treated by a physician prior to his admission to the hospital. He comes for treatment on account of dizziness, impairment of hearing and profuse discharge from the left ear.

OTOSCOPIC FINDINGS.

Right ear normal.

Left Ear—Profuse and very offensive, dirty gray colored, purulent discharge which when wiped away shows the external canal to be normal. Complete destruction of the tympanic membrane. Remnant of the hammer handle still present. Large polyp behind the short process of the hammer. Granulations in the hypotympanum which bleed readily. Typical cholesteatoma visible. Mastoid process not sensitive and periosteum not thickened.

FUNCTIONAL EXAMINATION.



Right	Left
12 meters, + Conv. voice	1 meter
12 meters, + Whisp. voice	Ad. conch.
12 meters, + Acumeter	Ad. conch.
Weber —>	To the left
Normal Schwabach	Shortened
+ Rinné	—
Normal C ₁ ,	Shortened
Normal C ₄ ,	Shortened
+ Watch on mastoid	—



SPONTANEOUS NYSTAGMUS.

Slight nystagmus to the right when looking to the extreme right and to the left when looking to the extreme left; but to neither side more marked than to the other.

CALORIC NYSTAGMUS.

By syringing the left ear with cold water with the head in the erect position the patient exhibits rotatory nystagmus to the right.

GALVANIC NYSTAGMUS.

Was not examined for at this sitting.

TURNING NYSTAGMUS.

After ten turnings to the left (3600°) with head inclined forward 90° the patient manifests a bilateral rotatory nystagmus to the right, when looking straight ahead, for a period of 20 seconds.

After ten turnings to the right (3600°) with head inclined forward 90° the patient manifests bilateral rotatory nystagmus to the left, lasting for a period of 20 seconds.

EQUILIBRIUM.

At the time of this examination (August 26, 1907) there was no evidence of equilibrium disturbances by the usual tests, including that made on the Alexander-Stein goniometer.

Three days later (August 29) after an accident which occurred during the local treatment, to be described later, the patient showed positive signs of equilibrium disturbances by all tests as follows:—

Rhomberg positive, gait forward and backward broad and uncertain, hopping on one foot quite impossible. The Alexander-Stein goniometer test showed quite evident disturbances, as follows:—

With eyes closed and face forward the patient tends to topple over with an elevation of 14° , with face backward 11° , with face to the right 9° and with face to the left 10° .

For reasons stated below the author on this same date made the test for labyrinth fistula; as a result, compression and aspiration nystagmus or the so-called fistula symptom was found to be positive. Upon applying compression of air in the external canal of the left ear the patient manifests a pronounced horizontal nystagmus to the

left and upon applying suction, a pronounced horizontal nystagmus to the right. The compression nystagmus to the left is somewhat more pronounced than the aspiration nystagmus to the right.

The examination for compression and aspiration nystagmus was not generally made prior to this time, but has been quite universally since. This case appeared at a time when aurists were beginning to recognize the importance of the symptom. Concerning this point I refer you to the former paper on Labyrinth Fistula (*Homöopathic Eye, Ear and Throat Journal*, Aug., 1909).

OPERATION.

The case was operated by Professor Alexander, August 29th, 1907, under general narcosis with Billroth's mixture; operation lasting 25 minutes. Operation as follows:—Typical retro-auricular incision from 4 to 5 cm. long. Laying free of the mastoid process. Chiseling open the same to the antrum which was filled with a cholesteatomatous mass. Removal of the cholesteatoma and curettement of the matrix. Thoro removal of all granulations in the middle ear spaces. On the prominence of the external semicircular canal a 3mm. long oval shaped, fistula was found. The dura of the posterior fossa was exposed for an area about the size of a 5 cent piece. The operation was completed after the method of Zaufall; plastic after Panse; wound dressing with iodoform gauze and bandage.

August 29th. Evening of same day. Patient vomited considerably, pronounced vertigo.

August 30th. Patient vomited often, has pronounced vertigo, rotatory nystagmus to the right when looking straight ahead.

August 31. Patient feels generally better, has not vomited. Vertigo has become less severe. Rotatory nystagmus to the right when looking straight ahead, but less pronounced than yesterday.

September 1st. No vertigo. Rotatory nystagmus to the right.

September 2d. No vertigo. Rotatory nystagmus to the right.

September 3d. No vertigo. Rotatory nystagmus to the right. Slight facial palsy on left side involving all branches of the 7th nerve.

September 5th. Change of dressings. No vertigo. Rotatory nystagmus to the right present, but diminishing in intensity. Facial palsy more pronounced, patient can barely whistle and raises the left angle of his mouth poorly. Can close left eye but incompletely.

September 9th. Change of dressings. No vertigo. Rotatory

nystagmus to the right less pronounced. Facial palsy unchanged. Patient feels the slightest degree of vertigo when walking. Was discharged from the hospital and made an ambulatory patient to report for further treatment and observation.

September 10th. Change of dressings. Vertigo is only present when making quick movements. Rotatory nystagmus to the right. Facial palsy unchanged. Examination of left ear with 3 meter speaking tube whispered words heard *without* failure.

September 12th. Change of dressings. Facial palsy less distinct. Patient can close left eye. Rotatory nystagmus to the right continues. Speaking tube-whispered words heard *without* failure.

September 17th. Change of dressings. Facial palsy about the same as last examination. Rotatory nystagmus to the right. When cold water is syringed into left ear the nystagmus is unaffected (not increased).

September 18th. Change of dressings. Retro-auricular wound much smaller. Facial palsy unchanged since last examination. Cold water in left ear produces no alternation of the very slight degree of rotatory nystagmus to the right.

After ten turnings to the left with head inclined forward, pronounced rotatory nystagmus to the right lasting twenty seconds.

After ten turnings to the right with head inclined forward, rotatory nystagmus to the left lasting ten seconds.

Speaking tube, whispered voice heard *without* failure.

September 29th. Redressing. Facial palsy improved. Spontaneous rotatory nystagmus to the right when looking to the right. No nystagmus to the right or left when looking to the left. Same reactions to turning as on the 18th. Speaking tube, whispered voice heard *without* failure.

October 10th. Facial palsy decidedly better, other findings about the same as last examination. Wound closed and all discharge from left ear has ceased.

Patient was told to report at wider intervals.

A complete functional re-examination was made December 10th which gave the following results:

DECEMBER 10TH, 1907.



Right	Left
12 meters, + Conv. voice	2½ meters
12 meters, + Whisp voice	⅓ meter
12 meters, + Acumeter	0
Weber Not lateralized	
Slightly short, Schwabach	Very short
+ Rinné	—
Normal C ¹ ,	0
Normal c ₄ ,	0
Normal A ₁	0
+ Watch on mastoid	—



SPONTANEOUS NYSTAGMUS.

When looking to the right, bilateral rotatory rhythmic nystagmus to the right. Also less marked rotatory nystagmus to the right when looking straight ahead.

No nystagmus to the left when looking to the left.

CALORIC NYSTAGMUS.

Negative, *i. e.*, syringing the left ear with large quantities of cold water does not increase the existing spontaneous nystagmus to the right.

AFTER-TURNING NYSTAGMUS.

After ten turnings to the left with head erect and with opaque glasses before the eyes, horizontal nystagmus to the right lasting 35 seconds.

After ten turnings to the right with head erect and with opaque glasses before the eyes, horizontal nystagmus to the left lasting 12 seconds.

LABYRINTHINE FISTULA.

After ten turnings to the left with head inclined forward, rotatory nystagmus to the right lasting 19 seconds.

After ten turnings to the right with head inclined forward, rotatory nystagmus to the left lasting 11 seconds.

GALVANIC NYSTAGMUS.

Kathode 4 ma. rotatory nystagmus to right increased.
Anode 10 ma. no effect.

Kathode 10 ma. no effect.
Anode 4 ma., rotatory nystagmus to right increased (?).

THREE METER SPEAKING TUBE.

Conversational voice *without failure.*

COMPRESSION AND ASPIRATION NYSTAGMUS.

Negative.

EQUILIBRIUM.

Positive evidence of equilibrium disturbances as shown by positive Rhomberg. Wide and uncertain gait both forward and backward, also side stepping and hopping on one foot less certain than normal.

ON THE GONIOMETER.

With open eyes:
Face forward 26° .
Face backward 23° .
Face to right 19° .
Face to left 18° .

With closed eyes:
Face forward 14° .
Face backward 11° .
Face to right 10° .
Face to left 9° .

Patellar reflexes normal as are also other deep reflexes. Vision normal, pupils react promptly to light, accommodation and convergence. Patient's intelligence normal.

DISCUSSION OF THE CASE.

The history is that of a chronic middle ear suppuration. The fact that the discharge was intermittent suggests a cholesteatoma. The history of dizziness with the subjective sensation of turning aggravated by active movements, ameliorated by keeping quiet, in the course of chronic middle ear discharge should direct our attention immediately to the inner ear.

The dizziness, however, does not tell us the exact character of the lesion within the inner ear, for it may be due to one of several clinical conditions, an irritative lesion, circumscribed or general, or a destructive lesion, circumscribed or general.

The Otoscopic Findings. The offensive discharge in spite of the treatment, which he had prior to admission to the hospital, suggests a cholesteatoma. The complete destruction of the membrane may suggest either chronicity or marked virulence of the original infection. It more often points to the latter for in those cases of suppuration following scarlet fever we frequently find complete destruction of the membrane early. Again complete destruction of the membrane is a most favorable condition for the development of a cholesteatoma, which by the way was present too in this case (see paper by author—"Cholesteatoma," *Hahn. Monthly*, Sept., 1908). A part of the cholesteatoma was visible by otoscopic examination, presenting a glistening, pearly white, smooth surface.

The granulations, bleeding readily, suggest bone involvement and they are apt to be found in conjunction with cholesteatoma.

Functional Examination. The right ear showed normal hearing function. The rooms in the hospital were not ideal for determining hearing distances, so the figures are lower than they would otherwise have been.

The left ear showed the hearing to be greatly reduced. Lateralization of the tuning fork to the left points to middle ear affection; but since the bone conduction on the left mastoid was shortened we have a finding which points to inner ear affection. The Rinné was negative, which, when combined with shortened bone conduction, indicates middle ear disease with secondary inner ear involvement (see paper by author on Rinné Test, *Hom. E., E. and T. Journal*, Aug., 1910).

That C_1 was shortened points to middle ear disease.

That c_4 was shortened points to inner ear disease.

Watch on mastoid was heard on the normal side but not on the affected side, which fact points to disease of the inner ear of the affected side.

That the spontaneous, rhythmic nystagmus was present to the left when looking strongly to the left and to the right when looking strongly to the right, but to neither side more marked than to the other does *not* suggest disease of the inner ear or at least of the membranous part. On this point I wish to emphasize the fact that normal indi-

viduals when looking intently enough to the right or left side will manifest a rhythmic nystagmus in the particular direction toward which they are looking. This is purely physiologic and I have spoken of it before, notably in an article upon Nystagmus in the *Homœopathic Eye, Ear and Throat Journal*, June, 1909. Again, it is possible for the osseous labyrinth to be considerably involved, especially in cases of fistula, before the membranous labyrinth shows any physical or clinical signs of involvement.

But how are we to explain the apparently contradictory facts, namely, the absence of spontaneous nystagmus and the presence of vertigo (mentioned in the history)? The vertigo mentioned in the history was evidently due to causes which were transient (circumscribed congestion) and not present at the time of the examination on the 26th of August.

That this was the case is further borne out by the results obtained thru turning.

The after-turning nystagmus was of equal duration to the two sides and approximately normal (20 seconds). Had the patient suffered an irritative lesion at the time of the examination he would have manifested a longer duration of nystagmus to the affected side. Had he suffered a destructive lesion he would have manifested a much shorter duration of the nystagmus to the affected side.

The Caloric Reaction made with cold water douched into the left middle ear cavity indicated that the inner ear was reactive and not destroyed, for the patient showed a pronounced rotatory nystagmus to the opposite (right) side.

The Galvanic Nystagmus was not examined at this time for I had not yet worked the subject up to the point that I had later.

We come next to a very important sign in the diagnosis of labyrinthine fistula, which was present in this case, namely, compression and aspiration nystagmus called also the fistula sign.

Prior to this time it was not the routine practice to examine every case for the presence or absence of this sign, however it became so immediately afterwards.

In this case the sign was found quite accidentally. The patient after waiting three days in the hospital for his turn to be operated, began to grow anxious because of the postponement of his operation, which was made necessary on account of a rush of other cases demanding more immediate attention. In order to pacify and hold the patient in

the hospital for another day it was necessary to do something. Accordingly it was agreed to remove a polyp with the snare. Upon engaging the polyp, using the average amount of pressure necessary to reach as near the base as possible, the patient suddenly cried out in terror, extended both arms, grasped the table with one hand and an assistant with the other while his face took on a wild expression with widely open eyes, and sweat flowed freely. He was a very sick looking man for a short time. I recognized it immediately as a severe attack of vertigo, the result of pressure on some part of the lateral labyrinthine wall where the capsule was defective.

After waiting several minutes until the patient had become quiet and normal again I attempted to demonstrate the presence of compression and aspiration nystagmus. Upon applying pressure the eyes made quick horizontal movements to the left (same) side, of about 6 mm. excursion, occurring at an approximate rapidity of three complete excursions for each second of time. Upon releasing the pressure and using gentle aspiration, the nystagmus changed to that of horizontal to the right of somewhat shorter excursion than it had been to the left. The character and direction of the nystagmus (remembering Ewald's experiment) established in the writer's mind the diagnosis of fistula of the osseous horizontal (external) semicircular canal with the membranous canal intact, which diagnosis was corroborated at the time of the operation.

After waiting an hour the patient was examined on the goniometer with the result that he showed diminished equilibration. Balance was lost with eyes closed at greatly reduced elevations.

The operation report shows the typical findings of a case of chronic middle ear suppuration with cholesteatoma. The cholesteatoma had by its growth caused an absorption of the bone of the prominence of the external semicircular canal; not an unusual finding in these cases. Altho there was a fistula in the osseous canal, the membranous canal had not been affected, accordingly Prof. Alexander decided to leave the labyrinth alone.

Surgically the wound did well, healing occurring completely after a reasonable length of time for such cases.

During the period of after treatment we note prominently

(a) Vertigo* which was quite pronounced immediately follow-

*The vertigo following the operation was not due to any fault of the operation but to the uncovering of an existing fistula which had been sealed over with a cholesteatomatous mass—the vertigo was an inevitable sequence.

ing the operation and for a day or so afterward. The vertigo then grew gradually less, however it was felt more or less by the patient when going around even after he had left the hospital.

This symptom taken together with the next symptom to be mentioned—spontaneous nystagmus to the right (well) side—tells us that a destructive process had occurred in the labyrinth after operation which was probably of a slower nature than a diffuse suppuration, for the patient retained hearing for at least some weeks after the operation.

(b) S p o n t a n e o u s R o t a t o r y N y s t a g m u s to the right (well) side was present immediately following the operation and diminished gradually thereafter, but had not disappeared entirely after five months. At all times the nystagmus was demonstrable, even when the patient looked straight ahead.

The character, direction and persistency of the nystagmus found in this case is characteristic of any form of destructive lesion of the labyrinth or more exactly of that part which has to do with the static and dynamic equilibrium.

(c) H e a r i n g was present and demonstrable with the three meter speaking tube for a considerable period after the operation, the patient having been able to detect whispered words without failure. Eventually the hearing grew less and less until finally all hearing left the patient, he not being able to recognize conversational voice thru the tube. Furthermore he was unable to hear the new, Edelman-Bezold, small (a_1) fork that Professor Alexander had just acquired for the clinic. In short the patient grew *gradually* deaf and the deafness was *absolute*.

(d) F a c i a l p a l s y developed late and as all facial palsies do which develop late after the radical operation, it disappeared early. Complete recovery occurring after a few weeks.

I made several complete examinations of the case for the purpose of study, about a month apart; however to save space I have outlined but one which was made December 10th, 1907. It is shown above in the report and really needs no further special discussion.

The patient had an inactive left labyrinth, complete deafness and demonstrable equilibrium disturbance.

1831 Chestnut Street.

ABSTRACTS.

Recent Advances in the Treatment of Pathologic Conditions in the Nose. Dr. W. B. Chamberlin (*Cleveland Medical Journal*, July, 1910). Bosworth's saw operation of the septum, the crushing operation of Asch, and others, though still used by some have, under the leadership of Killian, Hajek and Freer, given away to the delicate and surgical submucous resection. This operation, of course, is not applicable to the correction of every kind and degree of septal deformity, but it is preferable to other and cruder methods in the vast majority of cases. It is an operation of extreme difficulty and nicety, and not to be undertaken lightly. When properly performed its results are excellent.

There has been a radical change in the treatment of hypertrophy of the turbinals. The cautery still has its place, though the occasions which demand its use are fairly limited; the more exact methods of removing redundant tissue by means of the cold snare or scissors have supplanted it. A good rule in treatment is the following: First, reduce all hypertrophy as far as possible by thorough cocaineization and adrenalization. After so doing, any tissue which can be moved by the probe over the underlying bone is redundant and should be removed. Yankauer's resection of a v-shaped piece along the free border of the turbinal is a procedure of some difficulty and is ingenious but unnecessary. In turbinal hypertrophy, the frequently marked enlargement of the posterior end, even when the turbinal is anteriorly normal both in size and appearance or the remaining posterior enlargement after the anterior redundancy has been removed, should not be overlooked. Its diagnosis is often a matter of difficulty involving a painstaking examination from in front, under good light, by means of the nasal probe as well as a most careful use of the postnasal mirror.

Tonsillar and Adenoid Hypertrophy. From the standpoint of development, there is a suggestion that the anterior lobe of the pituitary body is in intimate relationship with the pharyngeal tonsil. Comparative anatomy and laboratory experiment credit this lobe of the pituitary, in structure like the thyroid, as the center of the oxidation processes of the body, and an organ of special sense to protect against toxins in the blood. This lobe is developed from the primitive mouth cavity. Lanzert (Adami, Path., Vol. 2, p. 706) found evidence of the cranio-pharyngeal duct in 10 per cent. of children examined. Suchanek found in a child a prolongation of the dura mater extending from the pituitary thru the sphenoid bone to a cul-de-sac in the posterior portion of the pharyngeal vault. The pharyngeal tonsil marks the termination of this duct.

A Modified Simpson's Tampon to Prevent Nasal Hemorrhage. Dr. Mark D. Stevenson's tampons are three inches long and one-half inch wide by one-sixteenth or one thirty-second inch thick; when moistened they swell until very much thicker. The cotton tampon must be kept dry before introducing. It should be wrapped in thin gutta percha of equal length, the gutta percha being wrapped around the tampon two or three times, much like wrapping a cigarette, and the free edge, except at the ends, gummed down by some sterile ointment, *e. g.*, zinc oxide or 2 per cent. calomel ointment. The gutta percha tissue is easily kept clean by keeping it (cut into proper sized pieces, three inches long by two and one-half inches wide) in a 1 to 2,000 solution of formalin. The thin gutta percha which deteriorates in the air keeps well in this solution and should be thoroughly dried between layers of gauze before applying to the tampon.

If it is desired to plug the naris without knowing where the hemorrhage is coming from, or following removal of the inferior turbinal or a large ridge or spur low down on the septum, the long tampon is introduced into the naris and pushed horizontally backward along the floor of the cavity until entirely within the nose. The posterior end will then lie in the posterior choana. Sterile water, normal saline, compound tincture of benzoin, or some mildly antiseptic solution should then be dropped on the open end of the tampon, which will cause it to swell. Moisture may also be admitted through a few small perforations in the gutta percha. The tampon will then press evenly against the external wall of the nose and septum and occlude the posterior choana and anterior naris. The septum ordinarily is fairly elastic and gives a little so that too much pressure is rarely, if ever, felt. In a wide fossa two are required side by side. They are best introduced at the same time, although they should be wrapped separately in gutta percha, as they are then more easily removed. Occasionally one should be split and one and a half introduced or even two and a half. Experience soon teaches how many to use. In some very narrow anterior nares the full size may be too wide to introduce, or it might seem that when swollen it would be too large to remove easily. The tampons can be readily narrowed to any desired width by a strong pair of scissors. They rarely require to be shortened.—*J. A. M. A.*, June 4, 1910.

Retinitis Pigmentosa. Robert W. Doyne (*The Ophthalmoscope*, Sept., 1910. The difficulty in diagnosing this disease arises from the fact that there are conditions to which it is closely allied; *e. g.*, chorioiditis with subsequent affection of the retina leading to atrophy and pigmentation, in which symptoms of night blindness are frequently found. Writers describe different periods of retinitis pigmentosa as being peculiar to different forms of the trouble instead of to variations in what may occur in the same case. A not uncommon symptom, altho Doyne has "not seen it mentioned by any writer on the subject" is: a

momentary sense of bright light circling around the periphery of the field. Ring scotoma—a zone of vision preserved at the extreme periphery—"is a very constant symptom of this disease in the earlier stages." Doyne has had "one case, absolutely typical in every way, in which only one eye was affected." "Another important condition to which I have seen no allusion in any of the books consulted by me" is: just inside the pigmented zone may be seen distinctly in many cases another zone of greyish infiltration, rather the color of powdered slate pencil, perhaps a little paler. This can be seen in the retina and is more especially associated with the vessels and, where the pigmented zone joins this zone some of this exudation is seen to be in the process of pigmentation. In some cases this is quite conspicuous; so much so that the writer is surprised that it has not been noted before. Opalescent opacities—distinguished from the true opacities in the vitreous commonly described—may be found in the posterior part of the vitreous in nearly every case of retinitis pigmentosa if carefully looked for; they are interlacing fine opalescent threads difficult to see.

Doyne does not accept the view that retinitis pigmentosa begins in the choroid and extends to the retina, because he has seen cases in which there was no manifest affection of the choroid. Other (hitherto) undescribed symptoms are: Persistence of images; and in advanced cases, a marked preference of the patient for a particular degree of artificial illumination.

Smith's Operation for Cataract. Dr. Derrick T. Vail presented to the Chicago Ophthalmological Society a description of a visit to Smith's clinic at Jullundur, Punjab, India, in September, October and November, 1909.

Smith uses no instruments of precision in diagnosing all kinds of new cases which come to his clinic for operation. He relies solely on the senses of sight and touch, acting on the principle that there is no disease of the eye which does not express itself objectively, and that a keen, accurate and well-informed surgeon can diagnose operable cataracts by his unaided senses.

Postoperative infection among over a thousand cases was so rarely present (two cases) that Vail could only attribute its rare occurrence to Smith's manner of preparing the field for operation. The "Jullundur speculum" is introduced and the lids held forcibly away from the ball at the same time the brow and tissues of the orbit above the eye are forcibly retracted by the fingers of the unoccupied hand, thus exposing the entire conjunctival sac for douching with 1:2000 bichloride solution, which is sent in the conjunctival sac with gravity force in a half inch stream.

The incision is purely corneal, being begun in the exact horizontal meridian at the limbus. The edge of the knife is held at an angle of 20° to 30° in relation to the plane of the iris. In one-third of the

cases the cut is made with one forward sweep of the knife; in two-thirds of the cases completed with a return stroke, cutting as nearly vertically to the corneal layer as possible, and coming out two or three millimeters below the upper limbus.

The iridectomy is done by pressing the iris up in the incision by external manipulation with the lower blade of the iris forceps and it is cut with ordinary scissors. A small iridectomy is always attempted.

The assistant now holds the upper lid away from the ball on Smith's lid hook held in the first finger and thumb of his right hand. With the extended fingers of the same hand the eyebrow is forcibly retracted to guard against the patient squeezing his eye. The lower lid is held with the flexed thumb of his left hand.

The operator expresses the lens, using the bulbous end of Smith's lens hook applied to one spot midway between the lower margin of the pupil and the lower periphery of the iris, making deep pressure back toward the optic nerve and shifting the pressure as indicated by the behavior of the lens. In about one-fourth of the cases the lens turns within the eye and the lower edge ascends to come out of the incision first. This is favored by the operator making traction with his hook away from the incision or toward the patient's feet. As soon as the lens is about to escape thru the incision, gentle upward manipulation is used to tuck the cornea behind it and the lens is then gently raked out of the wound by means of the hollow of the hook.

In two-thirds of the cases the lens starts to come upright. The operator will favor its upright delivery by following it up and at the same time tucking the cornea behind it. The iris is replaced at once by the iris repositor, the end of which is made to glide along under the sclera shelf of the wound between the cut apron of iris and the cornea. The whole operation is usually done in less than five minutes' time. There is a minimum of traumatism and instrumentation.

The results were surprisingly beautiful and uniform, after-complications being the great exception.

Dr. D. W. Greene, discussing this paper: His book has been delayed about three years because Lieut. Col. Smith did not have a man competent to illustrate his operation until Dr. Vail arrived. Smith has frequently described the operation, but could not get it illustrated, therefore it has been imperfectly understood. Major Smith steps to the left side of the patient when he operates on the left eye because he believes in giving the patient the benefit of his best hand. He says no matter how ambidextrous a man may be, he is not equally skillful with each hand. There is no section in the world to compare with the Jel-lundur section, for intracapsular delivery in persons under sixty-five years of age.

Major Smith picks up the eye with a special forceps. It is broad and has three teeth on one blade and four on the other. With this he takes a firm hold of the eye close to the sclero-corneal margin below

and pulls the eye, if deeply set, right out of the socket. That deepens the anterior chamber, and permits passing the knife thru easily without causing any leakage of the aqueous or permitting the iris to fall over the knife.

The tendency of the operation is to make the pupil higher and broader than is desirable from a cosmetic point of view. I believe that there are three causes for this tendency to high pupils:

1st. The natural tendency of the uncut portion of the iris to contract centripetally and draw upward.

2d. A certain amount of paresis of the muscles of the iris from pressure on its lower third in delivery.

3d. Loss of vitreous always cause a high and broad pupil.

Major Smith prefers a knife that has been sharpened and resharpened until it is pronounced dangerous by the maker. The knife is then merely a steel sliver. It is a very short-bladed knife and very thin. It would easily be broken if used as we use our knives in cataract operations. By holding it very lightly Smith makes a sweeping incision, going in and coming right out.—*Oph. Rec.*, Feb., 1911.

Functionally, the lymphoid cells are phagocytic; the lymphatic glands increase the production of leucocytes; the leucocytes, making their way to the surface of the mucous membrane, combat a certain degree of infection. Overstrain, exercise without sufficient rest, fatigue, intoxication, predispose to infection. Inflammation is the local response to injury, infection the systemic reaction. The normal susceptibility of young children to infection is due to the immature glandular structure, the low oxidation power, and the instability of nerve control.

There are three classes of children peculiarly liable to hypertrophy of lymphoid tissue. First, the lymphatic child, whose lymphatic glands are prone to enlarge under slight irritation; second, the child whose nasopharynx has been neglected during an acute infection, as influenza or scarlet fever; third, and quite possibly fundamental to the other two, the neurotic, ill nourished child. The ill fed child is more often found among the poor, but not invariably so. The neurotic child is the child of overworked, underfed, underkept and worried parentage. Neurosis and poor nutrition go hand in hand. Lack of sleep, lack of oxygen and lack of food are the underlying causes of both.

To keep a child out of the preadenoid stage, every mild nasal catarrh should be followed up to an absolute cure. The first glandular enlargement should be under medical supervision until a normal condition is restored. This requires regulation of the habits of life in sleep, ventilation, nutrition, bathing and dress, as well as medication. Five hours a day in superheated, ill ventilated school rooms, and ten hours more in stuffy sleeping rooms make it an unequal fight. It is really much easier to go to the surgeon when the mischief is done, and pay five to fifty dollars to have the offending member out. As a matter of preventive

medicine, it is late to institute regulative measures when there is already obstructed respiration or recurrent infection. The most important period for preventive medicine is the two years of infancy when the child is getting his start in individual life. Inadequate nutrition, oxygen and sleep during infancy aggravate the physiological susceptibility to infection. Such conditions make a child liable to become a preadenoid child.—Sarah M. Hobson, *The Clinique*, Dec., 1910.

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EDITORIAL.

TURBINALS OR TURBINATES.

OUR readers can not have failed to notice the increasing prevalence of the use of a single word in place of the term "turbinated body" and that *turbinal* and *turbinate* seem to be used indiscriminately, with a preference for the latter.

The English language is a live one, which is evinced in this case. It would seem that turbinate is winning its place in the usage of the profession, even to the displacement of turbinal—we mean as a noun—despite the fact that both *Dorland's American Illustrated Medical Dictionary*, 1903, and *Gould's Practitioners' Medical Dictionary*, 1906, give only turbinal, agreeing that it is an adjective and also a noun: "2. A turbinated bone (L. *turbinalis*, from *turbo*, a top).

This derivation should suffice to decide in favor of *turbinal*, but there seems to be some undefined tendency to turbinate—is it because dropping the final letter will then turn an adjective to its corresponding noun? Or is it from analogy?

Walker's Rhyming Dictionary gives labial as the only noun in -al from the corresponding adjective in -ated, and that has also labiate as its substantive. Radiated, associated and palmated form familiar nouns by dropping their final d.

In the November, 1902, issue of this JOURNAL appears a symposium upon this question: "Shall we attempt a uniform nomenclature for the turbinated bones?" Edwin Pyncheon wrote that he failed to find the noun turbinate in any of ten dictionaries and quoted Gould, Dunglison, Thomas, Webster and the Century Dictionary in support of *turbinal*.

Drs. Herman Knapp, M. A. Barndt, George C. Stout, John M. Ingersoll, W. F. Beggs, George Strawbridge, and E. F. Reamer voted for *the turbinals*.

Drs. Stephen H. Lutz, Linn Emerson, Edward Fridenburgh, A. A. Cannady, Geo. E. Malsbarry, Irving Townsend and H. W. Hoyt preferred *the turbinates*.

Dictionaries follow the prevailing usage, but in giving the etymological derivation they carry authority.

In such a clear cut case of the right and wrong word as astigmia it would seem proper for the medical journals to announce and follow a policy of revising manuscript by substituting the correct word, as they would with spelling.

In this instance, however, each writer's preference should be respected, so that their pages will show the position of the profession.

Attention is called to the matter in hope that each of our readers will consider carefully and bring to the attention of those with whom he or she comes in contact the advisability of determining which of these words to use; the other might be allowed as a synonym to relieve monotonous repetition of *the turbinals*, which appeals to us as the preferable word.

TWO NEW OPERATIONS FOR THE ADVANCEMENT OF AN EXTRINSIC OCULAR MUSCLE.

FREDERIC G. RITCHIE, M. D., O. ET A. CHIR.,

New York,

Surgeon, New York Ophthalmic Hospital; Consulting Ophthalmologist, Otologist and Rhinologist, Grace Hospital, New Haven, Conn.; Professor of Ophthalmology, College of New York Ophthalmic Hospital.

VOICING the sentiment expressed by my colleagues, and speaking from a personal experience in muscle work covering, as it does, a period of nearly a quarter of a century, I am confident that any operation which may be devised that will simplify the technique and at the same time contribute to the permanency of the effect of the operation for the advancement of an extrinsic ocular muscle, as viewed at the time of its completion, will be cordially received by the profession.

Who is there who has performed such an operation but has with some trepidation removed the sutures, fearing that the desired effect has been either partially or wholly lost thru the cutting out of a suture, due either to a too firm constriction of the parts in the tying of the suture, or thru failure to dip deep enough to secure an adequate hold upon the superficial fibers of the sclera?

Again the manipulation necessary in removing the sutures may cause the none too firm union of the advanced muscle to give way or at least become weakened, and as a result our efforts at remedying the defect are, at the best, but a partial success.

When Claude Worth first announced his operation for advancement I adopted it as being, in my estimation, the best devised, modifying it by cutting off one end each of both the upper and lower sutures and tying the two remaining ends together, believing that in so doing I could advance both the upper and lower portions of the cut end of the muscle more evenly and equally than if they were advanced independently.

While I consider the Worth operation a great improvement upon

the other advancement and tucking operations which I had formerly practiced, I was constantly endeavoring to perfect an operation which should embody the following features:

(a) An operation, the immediate effect of which should be the permanent effect.

(b) The minimum amount of traumatism consistent with efficiency.

(c) A single suture with but a single knot.

(d) A suture which could be removed without endangering the newly formed attachment.

(e) A suture which, when properly introduced, should advance the muscle squarely and evenly, and that without unnecessary puckering of the conjunctiva.

(f) A suture that would automatically compensate for any undue traction upon either border of the muscle.

(g) A suture which would hold the muscle without cutting thru the tissues prematurely.

(h) A suture so placed that it would not interfere with the blood supply of the muscle.

All these conditions, I believe, will be found to be fulfilled in the operation which I am about to describe; at least such has been the experience of myself and those of my colleagues of the New York Ophthalmic Hospital who have performed the operation.

Another great advantage that it possesses is that it can be performed much more expeditiously than most of those operations having the same result in view, owing to the simplicity of its technique, there being no time consumed in the tying of knots or in endeavoring to isolate the proper end of a suture from a number of others.

The operation is applicable to all degrees of squint, and may be also performed, without excision of a portion of the muscle, for the relief of heterophoria.

In those cases of convergent strabismus in which the error exceeds 25 degrees, and those of divergent strabismus in which the defect is more than 12 degrees, the advancement operation should be immediately preceded by a simple tenotomy of the antagonistic muscle, care being exercised to simply detach the tendon at its insertion, leaving the lateral expansions intact. This will prevent undue retraction of the globe with consequent narrowing of the palpebral aperture which would otherwise occur.

Instruments and Suture Material.—The instruments needed for the performing of the operation are: (1) Speculum. (2) Fixation forceps. (3) Curved strabismus scissors, with narrow, well rounded points. (4) Large strabismus hook. (5) Advancement forceps, with under blade free from teeth (preferably those of the author or Worth). (6) Needle forceps. (7) No. 3 half curved eye needles. (8) No. 3 braided, iron-dyed silk.

A word about the scissors may not be amiss. Those usually furnished are too heavy, too broad at the points, and too long in the handles. Messrs. Geo. Tiemann & Company made me a pair each of straight and curved strabismus scissors after my own specifications, in 1894, which have proven eminently satisfactory. The length of the shanks from the screw to the junction with the finger rings is two and one-eighth inches, the entire length of the scissors being four and one-eighth inches. An earlier model furnished me by the same house measured four and seventh-eighth inches.

The needles should be inspected and tested before using, in order to determine the condition of the points, only those which possess perfect points should be used; all others should be resharpened or rejected. Personally, I prefer the needles with the patent eye, as in case one of them proves imperfect or becomes broken it can be removed and another quickly snapped onto the suture.

The method of sterilizing the instruments is a matter of individual preference, each operator having his own ideas as to the most effective method. My own mode of procedure is to have them immersed in alcohol (95) per cent.) for ten minutes, and as each instrument is removed therefrom it is dipped into boiling water and laid on the instrument tray. This method does not injure the edge of the cutting instruments as does boiling, and I believe effectually sterilizes them.

The suture material is previously prepared by being loosely wound on a wire reel and, having been sterilized, is immersed in a hot solution consisting of three parts of white wax and five parts of solid albolene, for a sufficient length of time to become thoroly impregnated, after which it should be wound on a glass spool and kept in a glass ligature tank in a 1/500 solution of alphozone (Stearns) until needed for use, when a piece twelve inches in length is removed and threaded with two needles, one at each end.

Preparation of the Field of Operation.—Some hours previous to the operation the face should be scrubbed with green soap and

water and, after removing all traces of the soap, the eye should be flushed with a solution of alphozone 1/1500, and the surrounding parts bathed with the same. A small quantity of alphozone ointment of the same strength (the base used being composed of equal parts of lanolin and solid albolene) is introduced into the eye and an occlusive dressing saturated with the solution before mentioned is applied and allowed to remain until the time of the operation.

Anesthesia.—Local is preferable to general anesthesia except in very young children; for under the former condition we have the co-operation of the patient, and the anatomical position of rest, which the eye assumes under general anesthesia, is replaced by the functional position under a local anesthetic.

My method of producing local anesthesia is as follows: I draw into the barrel of an aseptic glass hypodermic syringe of 30 minims capacity, 10 minims of Waite's local anesthetic (Antidolor Mfg. Company) and the same amount of supracapsulin (Cudahy); the syringe is then inverted and the piston drawn out as far as possible without causing it to leave the barrel; the two preparations are then caused to mix by shaking the syringe, after which the air is expelled. The occlusive dressing having been removed, the lids are freed from the ointment by the use of small pieces of aseptic gauze, the culs-de-sac are again flushed with the alphozone solution and the lids dried with sterile gauze. The hypodermic needle, which should be inspected as to the condition of its point immediately after being filled, is then quickly plunged thru the conjunctiva near the limbus (the point being directed toward the insertion of the muscle), and a couple of drops of the solution injected; the needle is then pushed forward under the tendon and two or three drops injected, after which the needle is withdrawn, when the operation may be immediately commenced.

The local application to the conjunctiva of a solution of cocain, or any other anesthetic with which I am at present acquainted is an unsatisfactory method of attempting to anesthetize the eye for the performance of such an operation as an advancement. In the first place, the effect is not profound enough and, in the second place, it is too evanescent. Cocain moreover occasions a desquamation of the corneal epithelium which gives rise to diffraction and thus seriously interferes with the tests for the delicate adjustment of the suture necessary in all cases in which central fixation is obtainable in each eye; for our object is to restore if possible single binocular vision. The test re-

ferred to is the diplopia test with a displacing prism before one eye and the point of light situated at twenty feet distant from the patient.

OPERATION.

Incising the Conjunctiva.—A broad fold of the conjunctiva and underlying structures is seized in the grasp of the fixation forceps, parallel to the muscle and close to the corneal border, directly opposite the middle of the insertion of the muscle to be advanced. This fold is incised with the scissors, making a wound the direction of which practically coincides with the line of insertion of the muscle and leaving a strip of conjunctiva from 2.5 to 3 millimeters broad between the cornea and the incision.

The incision is extended an equal distance in either direction for a quarter of an inch, which allows sufficient working room in all except squints of high degree; should more room be desired the line of the incision may be made curvilinear with the convexity toward the cornea, this increases the size of the denuded area in the direction of the muscle and allows a larger working space.

Exposing the Muscle.—The conjunctiva and capsule are drawn backward, in the direction of the muscle, with the forceps which are held in the left hand, thus exposing the muscle. A large strabismus hook is then passed underneath the muscle at its insertion and, the forceps being laid aside, the hook is transferred to the left hand; the advancement forceps being taken in the right, its under blade is passed underneath the tendon, its introduction being facilitated by raising the muscle from the globe by traction with the strabismus hook. The upper blade is external to the overlying tissues. Slight traction is made by the blade of the forceps upon the tendon of the muscle at its insertion in order to steady the eyeball while the hook is pushed backwards beneath the muscle, thus freeing any attachments of the under surface of the muscle.

Adjusting the Advancement Forceps.—The blades of the advancement forceps are then closed down upon the muscle and all overlying tissues, care being taken that the direction of the blades is parallel to that of the insertion of the muscle; that the blades enclose the full width of the muscle; also that the conjunctiva is pushed back so that the distal edge of the wounded membrane only is included in the grasp of the forceps. The hook is then removed.

The point upon the muscle at which the forceps are adjusted will depend upon the amount the muscle is to be shortened to obtain the

desired effect, bearing in mind that the tissues are to be excised between the forceps and the suture where it passes thru the muscle.

Detachment of the Muscle From the Eyeball.—The advancement forceps are now transferred to the left hand and the muscle is freed from its insertion close to the globe with the scissors, and on lifting the tissues away from the eyeball a good view of the under surface of the muscle may be obtained, thus facilitating the placing of the suture.

Introducing the Suture (Fig. 1).—One of the needles on the suture having been fixed in the grasp of the needle forceps, is inserted from without inward thru the conjunctiva, capsule of Tenon and the muscle and caused to emerge on the internal aspect of the muscle at a point distant from the edge of the muscle equal to one-fourth to one-third its width. The needle is then released from the forceps, and one-half of the length of the suture is drawn thru. The needle is replaced in the forceps and is reintroduced from within outward and caused to pierce the tissues at a point on the outer edge of the muscle directly opposite the site of the first puncture. The needle is removed from the forceps and the suture drawn thru until the loop on the under side of the muscle lies flat against the tissues, when the needle is, for the time being, stuck thru a fold of the sterile towel enveloping the patient's head.

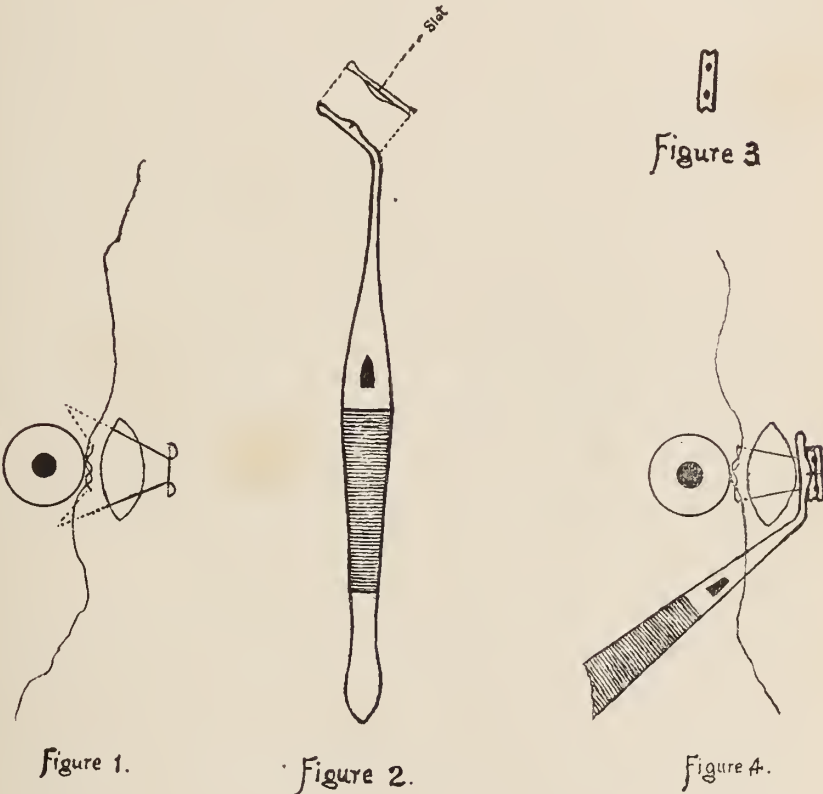
The end of the suture threaded with the second needle is then passed in front of and underneath the free portion of the suture threaded with the first needle, and caused to encircle it. The needle is then engaged in the jaws of the forceps and is passed from without inward thru the conjunctiva, capsule and muscle, at a point directly opposite the first point pierced by the first needle and at the same distance from the opposite edge of the muscle as in the first instance. The suture having been drawn thru, the needle is then replaced in the needle forceps and reintroduced at the edge of the muscle and brought thru the tissues in precisely the same manner as mentioned in the preceding paragraph.

The loop thus formed external to the conjunctiva is drawn down lightly, enough to flatten it without causing a puckering of the underlying tissues.

The needle is then passed from behind forward (towards the cornea) under the external loop of the sutures and drawn taut.

Thus each lateral border of the muscle is enclosed in a bight.

The advancement forceps are now entrusted to an assistant and the needle, being replaced in the forceps, is entered underneath the cut edge of the conjunctiva at the corneal side, and carried forward to a point about three millimeters beyond a line tangent to the edge of the cornea opposite the middle of the insertion of the muscle, and at an equal distance from the corneal border, where it is caused to emerge. The needle forceps are removed and the suture drawn thru. The needle is replaced in the forceps and re-entered at the same point (care



being taken not to pierce the suture with the point of the needle) and, dipping deeply enough to take up a few of the superficial fibers of the sclera at this point, is carried underneath the conjunctiva in a reversed direction toward the conjunctival wound and caused to emerge at a point one and a half millimeters beyond the line tangent to the cornea

already mentioned and 2.5 to 3 millimeters from the horizontal meridian of the cornea. It is necessary that the needle penetrates the superficial layer of the sclera at the point of emergence. This end of the suture is drawn taut and the needle removed.

The other needle is then placed in the needle forceps and introduced in precisely the same manner as described in the preceding paragraph, thru the tissues at the side of the cornea opposite to that already occupied by the other end of the suture. This having been accomplished the needle is removed from the suture.

Excising the Muscle.—The advancement forceps are then taken from the assistant, being held in the left hand, and the tissues in its grasp are slightly raised from the globe and severed with the scissors between the forceps and the point where the suture penetrates the muscle, care being exercised not to cut too close to the suture and also not to include any portion of the suture in the blades of the scissors.

Tying the Suture.—An assistant now grasps the muscle and overlying tissues with the broad fixation forceps, just back of the suture, and draws them well forward before releasing his hold with the forceps, while at the same time the surgeon ties the ends of the suture with the first hitch of a surgeon's knot, tightening the suture until the eyes are approximately straight, the patient during this step of the operation being directed to look straight ahead at a given point on the ceiling of the room.

If possessed of central fixation in each eye, the prism test before alluded to is used, the patient assuming the sitting posture, and the suture gradually tightened until the visual lines are parallel, when the final knot is tied.

Should central fixation be absent in one eye, the patient is directed to fix an object directly ahead, distant twenty feet or more, with the healthy eye and the suture is tightened until the eyes are apparently straight, when the final knot is tied and the ends of the suture cut off.

Postoperative Treatment.—The eye is flushed with the alphozone solution; a piece of alphozone ointment is introduced into the eye; the lashes and margins of the lids are smeared with the same, and a square of sterile gauze saturated with the alphozone solution is applied to each eye, supplemented by a light layer of absorbent cotton which is held in place by half inch "Z O" adhesive strips.

It is my custom to apply an ice bag to the operated eye for the first twenty-four hours—or rather have the patient's eye rest against an ice bag which is laid upon the pillow.

The eye is flushed gently each day with alphozone solution, and the ointment and dressing renewed.

Children and unruly adults are kept in bed, both eyes being covered, for the first three days, in order to discourage any attempt at using the eyes which would cause unnecessary traction on the sutured muscle. At the expiration of that period the unoperated eye may be uncovered, but the correcting glasses should be worn, the lens in front of the free eye being covered with a piece of paper, attached by paste, having a central aperture about three millimeters in diameter.

This modified dressing may be used as early as the second day in patients of intelligence.

The suture may be removed on the seventh day. This is accomplished by cutting the external loop, over the muscle, when, by seizing the knot with the dressing forceps, the whole suture may be readily withdrawn. Should the suture be cut at any other point, it will be found to be next to impossible to remove it, owing to the firm hold of the bights enclosing the lateral edges of the muscle.

MODIFIED SUTURE-PLATE ADVANCEMENT.

I have further simplified and shortened the time necessary for the foregoing operation by the use of a specially devised advancement forceps (Fig. 2) and a suture plate (Fig. 3), preferably of gold, which has been made for me by Messrs. Geo. Tiemann & Co.

In preparing these for use the edge of the suture plate is engaged in the slot on the upper blade of the advancement forceps in such a manner that the central transverse mark on the plate registers with that on the blade of the forceps. These instruments together with a pair of dressing forceps will be needed in addition to those already enumerated.

The steps of the operation, up to the point where the advancement forceps are applied, are the same as those already described in the first paragraphs of the preceding operation.

Adjusting the Advancement Forceps and Plate.—The smooth blade of a pair of advancement forceps is slipped under the tendon at its insertion and immediately clamped down upon the tendon of the muscle. The attachments of the under side of the muscle are then freed with the strabismus hook which is then removed and the tendon is severed from its insertion into the sclera with the scissors. The muscle is raised from the globe and, the scissors having

been laid aside, the author's advancement forceps, having been previously fitted with a suture plate, are taken in the right hand and clamped down upon the muscle and overlying tissues, including the distal edge of the wounded conjunctiva, in such a manner that the center mark on the under blade is equidistant from the lateral borders of the muscle and the holes of the suture plate occupy a position over the muscle corresponding to the point upon the muscle which will produce the desired effect. The assistant is now directed to excise the redundant tissue and muscle close to the proximal edge of the suture plate advancement forceps, while the surgeon holds tense the tissues to be excised by means of the two pair of forceps. Thus the first pair of forceps are cut loose with the excised tissues.

The needles are then passed thru the holes in the suture plate, piercing the conjunctiva, capsule of Tenon and muscle, and enclosing each lateral border of the muscle in a bight, in the manner previously described.

Each needle in turn is carried forward and caused to pierce the superficial fibers of the sclera underneath the bridge of conjunctival tissues next to the cornea, in such a manner that the points of emergence shall be systematically placed three millimeters respectively above and below the horizontal meridian of the cornea (Figure (4)).

The assistant is directed to draw the muscle forward with the forceps while the first turn of the surgeon's knot is being tied. The suture plate is grasped by the dressing forceps and held firmly while the advancement forceps are unlocked and the suture plate disengaged. The suture is then adjusted and tied in the manner already described.

This modified suture plate advancement may be performed without the use of my plate holding forceps, by threading the suture plate onto the middle of the suture before introducing the needles into the tissues, but it will be at the sacrifice of exactness in the placing of the sutures thru the muscle, and also will increase the time consumed during the operation.

It is obvious that the foregoing description of the operation applies only to those cases in which the tissues have suffered no previous traumatism. Should the muscle be surrounded by cicatricial tissue it would be necessary to free it by careful dissection, draw it forward and, having restored it as nearly as possible to its normal relation to the surrounding structures, the operation is conducted as described.

105 West 75th Street.

INTUBATION IN THE DORSAL POSITION.*

EDWIN RAPALJE BEDFORD, M. D.,

Brooklyn, N. Y.

MY reason for writing upon this subject is not because the method is new or original, but because I was informed that the method is not described in the text books. I notice, however, that Nothnagel mentions it as a method that may be used by one who is expert. He also states the advantage, which to me is the main object of this method, i. e., that very few assistants are required.

Perhaps necessity was the mother of invention here, for in the majority of the cases that the writer has had to deal with in the service of the Department of Health very little assistance is available. Many times the mother and grandmother of the patient are the only ones at hand.

The patient is wrapped securely in a sheet, which holds the arms close to the sides of the body; then placed (preferably) upon a table, although very often a lounge or a bed has to be used instead.

The gag is placed in the patient's mouth and with an assistant to steady the head and another—if you are fortunate enough to have one—to steady the feet, you proceed to place the tube into the larynx. More than once the writer has inserted the tube while the only assistant was wringing the hands in a further corner of the room.

In the majority of cases the epiglottis is already up and there is no need of wasting time to locate it and hold it forward, although in some cases this is necessary. The writer finds the simplest way is to locate the cricoid cartilage with the index finger of the left hand, and then to pass the tube just anterior to the finger rather than at the side as described in some of the text-books. In extubating the finger is used as a guide in the same manner. It is impossible to give an exact per cent. of recoveries, as so many of those cases are sent to the hospital and the final result is not obtained. However, the death-rate of 27% mentioned by Nothnagel would seem to the writer to be about correct.

*Written especially for this JOURNAL.

Previous to the use of antitoxin the death-rate was about 66%. Of course there are a great many deaths, because frequently the cases are not intubated until they are practically moribund or greatly exhausted by efforts at respiration, yet many times these cases make rapid recoveries after intubation and a sufficient dose of antitoxin.

There is no doubt that the number of diphtheria cases requiring intubation has been greatly reduced by the timely use of antitoxin, and that the recovery of those cases is in a large measure due to its influence. Eight or more thousand units of antitoxin given at the time of intubation and repeated within twenty-four hours will usually be required in severe cases.

Extubation is usually performed in four or five days.

Reintubation is seldom required if sufficient antitoxin has been given.

If the tube is allowed to remain too long paralysis of the laryngeal muscles may take place and the patient will have to wear the tube indefinitely.

During the past eight months the writer has performed intubation forty-six times and has injected a curative dose of antitoxin in two hundred and fifty (250) cases.

437 Putnam Avenue.

In one matter there is work for the **Carnegie Foundation** to do before it insists on a Bachelor's degree as an essential requirement for matriculation into the medical school —and that is to standardize the degrees of *A. B.* and *Sc. B.* When these degrees represent the possession of a definite and uniform amount of knowledge and skill it will be useful to discuss the relationship to medical education; not before.—*Dean John P. Sutherland, M. D., Address, Oct. 6, 1910.*

The Flexner Report does not take into consideration those innate qualities of mind and heart that are so often of greater use in the sick room than all the knowledge and training the schools can give; these things are not referred to as among the high standards. The fact that the possessor of many degrees does not necessarily possess sound judgment and what is known as common sense is also ignored. The high standards advocated do not by any means make the graduate broad-minded, progressive, receptive of new ideas, or capable of adjusting his own ideas and practices to innovations which may be admirable and very desirable and which sooner or later compel wide recognition.—*Ibid.*

TONSILLOTOMY OR TONSILLECTOMY?

FRED. D. LEWIS, M. D.,

Buffalo, N. Y.

THE object of my selection of the subject of my paper for this meeting was not to give to the members present any new ideas in regard to the operation on the tonsil, but rather that I might gain some knowledge from the discussion I hope will follow.

The subject selected I feel to be not only a timely one, but one of such importance that we all should be able to advise our patients for their best interests. The past few years have brought out numbers of papers in the various journals descriptive of the operation of tonsillectomy, the reading of which would give the impression of its being a very simple matter, the reason given so far as I have seen for its preference over that of tonsillotomy being the total extirpation of the organ so that no further trouble may occur. Is this a good and sound reason, or are there reasons that the operator would better not express to the physician in general practice?

After doing a tonsillotomy one day not long ago, in the presence of a physician who has done a number of tonsillectomies, the doctor referred to, asked me if I was doing operations to remove the tonsil in its capsule; I said I had tried a few but found the operation a very severe and lengthy one with much bleeding, and as I could see no cases as the family physician seeing the apparent simplicity of a tonsillotomy would purchase a tonsillotome and operate his own cases instead of sending them to me, whereas seeing a tonsillectomy with its severe hæmorrhage he would not dare attempt it.

What I wish to know is, is this a valid reason for changing a minor operation to a major one and subjecting a patient to the danger incident to any major operation, or are there better reasons, with positive advantages to the patient, that would warrant the removal of the entire gland instead of simply excising the protruding portion? I presume I have operated between two thousand and twenty-five hundred cases, mostly because the tonsil was abnormally large and an operation was

*Presented before the New York State Homœopathic Medical Society.

necessary for adenoids; my idea being that both operations would better be done with the one anæsthetic, and the tonsil being large was unhealthy and consequently was better out. I have seen a gain of ten to fifteen pounds inside of three months in children from this operation with increased vigor and interest in life.

Other cases where I have advised tonsillotomy have had frequent attacks of tonsillitis and with the excision of the hypertrophy the quinsy has been relieved permanently. Can better results be obtained by dissecting out the whole gland? Again, is the operation of tonsillectomy such a simple and easy one as one is led to believe from the written description of it? I am free to admit that there are selected cases where it has a decided advantage. I presented a paper some years ago before this society, reporting a case of leptothrix of the tonsils where months of treatment were necessary to kill the fungus that had established itself deep in the crypts of the gland. Should such a case present itself now, I should most certainly do a tonsillectomy,—also it is the only operation where the deep structures are diseased, but such cases are so rare as to make the total removal of the gland a rare operation.

Although tonsillectomy is considered as a minor operation, I have had cases that presented some very grave complications. We all, who do the operation, frequently have met with so-called bleeders where it was a serious matter to control the hæmorrhage, requiring the knowledge of the specialist to save the life of the patient. Let the family physician meet one such case and he is not likely to take the chances of another in the future, and will refer his future cases to some one prepared for such an emergency.

Last summer I was called to an Eastern city to operate a three-year-old child. I secured the services of an expert anesthetist who administered chloroform. The child took but a few inhalations and ceased to breathe. The operation was done as quickly as possible, by which time the patient was cyanosed. Work then began to save the life of the little one by dilating the rectum, swinging by the feet, hypodermic injection of ether, artificial respiration, etc., and I must say I never felt such a sense of relief as I did when the child began to cry. Before the operation the child was carefully examined, and I should never have known the reason for the collapse had I not heard a week later that the day after the operation the child had developed measles.

Such an experience makes one cautious about making an operation in the throat more serious than is absolutely necessary.

What, if any, use the tonsils are, is only surmise. The general belief being that the thick fluid secreted by them lubricates the bolus that is to be swallowed. Their structure shows from five to twelve openings leading into cavities lined with epithelial cells, and trouble arises from the closure of these openings by inflammation, and the retention of the secretion in these warm cavities is ideal for decomposition and absorption. If the surface only of the gland is removed, the openings from these cavities are enlarged and the secretion is poured out as quickly as formed, and no trouble can follow from that cause, so as I said before, why make the operation more serious than necessary to obtain the result desired? And if the tonsil is of any economic use, a part of it is retained to perform its unknown function.

I do not believe, however, that it is not only good advice, but the duty of the physician to insist, if possible, on the removal by operation of all tonsils especially in children that are hypertrophied. This I consider a duty because an hypertrophied tonsil is a diseased tonsil, and being a diseased gland the secretion must of necessity be abnormal, and is taken into the stomach with the food and interferes with the nutrition. If left to itself, nature will surely in time cause attacks of tonsilitis and each attack will destroy a portion of the offending organ until it is no longer offending when the attacks of tonsilitis will cease. Why wait for nature to destroy an organ, taking years to do so, when an operation will remove the offending portion in a few minutes? To be sure we have remedies that have proven their value to reduce the hypertrophy, but again, why not remove by mechanical means and administer the indicated remedy on general symptoms, and get results quicker than if hampered by the continuance of the self poisoning by the diseased secretion?

I have purposely made my remarks very brief and as directly to the point as possible, as I believe all papers should be, so that time may be given for the general discussion.

I would like to hear from those present who have had a greater experience in tonsillectomies, and to hear not only of such cases as have given but little trouble, but particularly those cases where they have had difficulties; also the reasons why they have adopted the new, and to my mind, more dangerous operation in preference to the old and simple tonsillotomy which in my practice has rendered such satisfactory results.

188 Franklin Street.

SENEGA IN PARALYSIS OF THE SUPERIOR RECTUS.*

H. D. SCHENCK, M. D.,

Brooklyn, N. Y.

A WOMAN sixty-four years old, not using the eyes for any purpose except light reading and ordinary family sewing. She was seen on November 8, 1909, and glasses were prescribed, correcting her hyperopia and hyperopic astigmatism as well as her presbyopia.

She had no trouble with her eyes from this time until January 10, 1910, when she complained of diplopia, which had followed a headache on January 9th. Between November, 1909, and January, 1910, she had had a severe attack of shingles. There was left hypertropia of 8° (Stevens and Maddox) and esophoria of 2° . The left eye was moderately restricted in movement. The patient was in good general condition. *Rx. Aurum met. 6, 1-2 hrs.*

By January 13th the left hypertropia had increased to 13° Stevens—and 20° Maddox—and the esophoria to 4° .

By January 18th the hypertropia was 24° Maddox and 12° Stevens. No complaints except from diplopia, objects being higher on one side than on the other. *Rx. Kali. iod. 1x, 2 grains 4 times a day.*

This was continued until January 27th without material change in the hypertropia. Prisms of 9° base down and 10° base up were tried but did not relieve the diplopia and were never worn. *Rx. Senega 3x, 1 tablet every 3 hours.*

This continued until February 19th, with constant improvement in the hypertropia, which by that date was reduced to 6° Stevens, but still remained up to 20° Maddox. The patient did not at this time have to carry the head on one side to relieve the diplopia.

On March 2d diplopia only when turning the head 30° to the left or 30° up or down.

By March 6th all diplopia was gone and there has been no return of it since.

Symptoms on which Senega was prescribed:

*Read before the Kings County Homœopathic Medical Society.

"When walking toward the setting sun and looking down he saw an oval smaller sun hovering below the other, > *bending backward* and closing eyes."

DISCUSSION.

JOHN L. MOFFAT: This case is reported as a verification of the symptom last quoted, which is italicized in the *materia medica*. But is it a verification? The patient did not complain of that symptom; all that the Doctor could elicit subjectively was: "Diplopia, objects are higher on one side than the other." Objectively, this was relieved by carrying the head on one side and—just before dismissal as cured—the diplopia was noticed only when turning the head 30° to the left or 30° up or down. In paralytic heterotropia the head is turned toward the affected muscle in order to relieve the diplopia. There was moderate restriction of movement in the left eye.

This report is of value because it affords opportunity to study the remedy and the symptom in the light of modern science.

Dr. Schenck examined the patient (details omitted) determining that the trouble was paralysis of the superior rectus muscle and measuring accurately and repeatedly the heterotropia. There is no reasonable ground to doubt the curative action of senega in this instance, and the lesson that senega acts upon the superior rectus.

But what pathological condition accounts for the symptom recorded in the proving: "When walking toward the setting sun and looking down he saw an oval smaller sun hovering below the other, relief by bending backward and closing eyes."

The symptom is inconsistent: Looking down is the same as bending the head back, yet the latter is said to relieve the diplopia caused by the former!

The smaller sun we may infer was the image in the left eye—its eye pointed higher than the other—because deviation projects the image in the opposite direction; this would indicate paresis of the inferior rectus of that eye or of the superior rectus of the other. The smaller sun "hovering" might indicate muscular unsteadiness, possibly of the weak muscle which failed in its effort to turn the eye down as far as its fellow. The sun appearing oval might have been accounted for by irregular action of the ciliary muscle but was more probably distortion of a soft eyeball by the lids which were closed—of course but partly—in the effort to relieve the diplopia.

It is earnestly hoped that a reproving of senega will be undertaken for the modern study of this effect of the drug.

As to the cause of this patient's paralysis of the superior rectus, the precedent headache with the history of the case indicate that it was probably central, effusion or hæmorrhage in the cortex or in the connecting fibers. Its location may have been along the branch of the third nerve supplying the affected muscle; if in the nucleus other

muscles would have shown its effects unless the disturbance was so minute as to harm only the one nucleolus.

Lucien Howe says ("The Muscles of the Eye"): "Cases are by no means rare in which a paralysis of one or more branches of the third nerve appears in a person otherwise perfectly well, and in a few days the disease develops in a most pronounced degree. The cause of this is often difficult to recognize, but there usually is a hæmorrhage or effusion near the nucleus or in some other portion of the brain intimately related to it. Other causes are grip, diphtheria or some of the eruptive diseases. Absence of headache has long been considered one of the indications of nuclear paralysis, but often it is impossible to diagnose it with any certainty. A cortex lesion has many times been demonstrated post mortem, but 'these cases are difficult to explain satisfactorily.'"

Resorcin for Chronic Conjunctivitis.—Resorcin ointment is used in *ciliary blepharitis* but it has been found too irritating in this form for application to the conjunctiva. According to Dr. Knapp, of Bâle, it can be used with advantage in 2 to 3 per cent. strength aqueous solution instilled into the eye two or three times a day in cases of *chronic conjunctivitis*. The burning sensation produced passes off quickly, and the solution is efficacious when no further benefit is obtained by the application of zinc sulphate. Aqueous solutions of resorcin turn brown rather rapidly on exposure to air, especially in an alkaline medium; consequently the author advises that the resorcin be dissolved in a solution of boric acid instead of in pure water.—*The Hospital*.

A saturated solution of oxygen in seawater at 68° F. is 3.29 grains per cubic foot. High class fish life requires 70 per cent. of saturation. If the dissolved oxygen falls below 50 per cent. of saturation "look out for trouble." Col. Black considers 30 per cent. of saturation in ebb tide an efficient reduction of sewage for a population of 550,000 people. No standard has yet been adopted, but one should be decided upon.

Ether an Antagonist to Cocain. By inhalation it stimulates more promptly than strychnine and morphine. Ether stimulates the vasomotor system, the respiratory center, the vagus center and, at the same time, the cardiac muscle.

Cocain inhibits the respiratory center and the heart—particularly the right heart.

In cases of cocain poisoning the ether must be given drop by drop, without excluding free access of air, and the anesthesia produced must be very light.—Engsted. Quoted in *Med. Rev. of Rev.*, Jan., 1911.

TRACHOMA A SEQUEL OF MALARIA.

D. S. KANSTOROOM, M. D.

NAPOLÉON BONAPARTE'S campaign in Egypt has immortalized his name in medical literature. His Egyptian campaign is religiously referred to by all medical writers on the subject of trachoma, in support of the contagiousness of the disease; as if the contagiousness of trachoma could not stand unsupported by the mighty name of Napoleon.

In spite of it all the contagiousness of trachoma is one of the most disputed subjects in medicine.

There is not one single scientific fact in its support, and I consider it one of the medical superstitions that we can't shake off.

Bacteriophobia has so blinded us that we can not think with an unprejudiced mind, it has so darkened our thinking chambers that it would take the leadership of a Moses to dispel the Egyptian darkness prevailing there, and the healing powers of a Christ to drive out the superstitions lurking there.

Trachoma is not a germ disease, hence can't be contagious. There is just one thing that stamps this disease as a nonbacterial disease and that is its pathology. The disease affects mainly one tissue only—the conjunctival adenoid tissue—while the other delicate eye structures suffer only through the mechanical irritation from the conjunctival adenoid hypertrophy.

I consider trachoma a chronic reaction on the part of the conjunctival adenoid tissue to chronic autotoxins circulating in the blood, which the conjunctival adenoid tissue is continually eliminating by virtue of its natural specialized function; the chronic autotoxins being a sequel of malaria running through the life history of the peoples affected with that disease.

Before going into the details of my theory of the cause of trachoma I will review all the literature on the nonbacterial theories of trachoma.

Dr. Swan M. Burnett in Norris and Oliver ("Diseases of the Eye," Vol. III., page 212) has the following to say about the etiology of the disease: "Trachoma is not a simple local disease due directly to a specific infection by a special germ from the outside, but it is a local

manifestation of a dycrasia." "In its general course and behavior and results it bears a close resemblance to tuberculosis, without being identical with that affection."

H. W. Wandless in the *New York Medical Journal*, January 7, 1911, considers trachoma the result of eyestrain and intestinal autotoxemia.

These two references are the only solitary contributions found in medical literature about the nongerm theories of trachoma, beside my own short outline of my own theory in the *Medical Record*, February 18, 1911.

The most characteristic lesion of trachoma is the chronic hypertrophy of the conjunctival adenoid tissue; as the characteristic pathological process of trachoma is expressed through the pathologic changes in the conjunctival adenoid tissue, it behooves us to study this tissue thoroughly, its function in disease and health.

The following is Fuchs' description of the conjunctiva: "The microscope shows the conjunctiva of the lids as well as that of the fornix is covered with cylindrical epithelium; the mucous membrane proper is of adenoid character—that is, even in the healthy state it contains an abundant quantity of lymphocytes, which notably increase in number with every inflammation of the conjunctiva. The palpebral conjunctiva contains small glands, which are found partly along the convex border of the tarsus, partly in the fornix conjunctivæ.

The mucous membrane of the lids like the mucous membrane of the respiratory tract, of which it is an embryologic continuation, is of an adenoid character.

The function of all mucosæ—like that of the suderiferous glands, salivary glands and kidneys—is the excretion of antitoxins or toxins circulating in the blood (see A. Combe's *Autotoxæmia*). It is by virtue of the adenoid tissue that is specialized to excrete toxins and autotoxins, that the mucosæ communicating with the exterior are avenues of excretion of poisons from the system.

In chronic autotoxæmia the adenoid tissue of the mucosæ is in a chronic state of irritation, due to the chronic excretion of chronic autotoxins circulating in the blood. This chronic irritation is attended by a chronic increase of blood supply to the adenoid tissue in question, which as a consequence becomes hypertrophied, and stays that way as long as the chronic irritation persists.

This is the only scientific explanation of all these abnormal persistent hypertrophies, examples of which are: Pharyngeal adenoids, hypertrophic mucosa of the turbinates and hypertrophied bronchial mucosa.

In chronic persistent adenoid hypertrophy of the conjunctival mucosa, as a characteristic lesion of trachoma, the same holds good. We must trace back this chronic adenoid conjunctival hypertrophy to a persistent chronic autotoxæmia.

It is a fact beyond dispute, a fact which everybody can verify for himself, that we do have chronic autotoxemia in trachoma.

Let us review the facts so far discussed.

1. The conjunctiva is an adenoid structure. 2. The function of adenoid tissue is the excretion of autotoxins and toxins circulating in the blood. 3. The chronic excretion of toxins and autotoxins by the adenoid tissue is the only explanation of its chronic persistent hypertrophy. 4. Trachoma victims suffer from chronic autotoxemia. 5. The characteristic lesion of trachoma is a chronic conjunctival adenoid tissue hypertrophy.

Victims of trachoma suffer from a chronic autotoxemia, what is the cause of that chronic autotoxemia?

Dr. Frank B. Eaton, in *Ophthalmic Record*, August, 1910, quotes Dr. Chibret's report on Trachoma: 1. "Swan, Burnett and Chibret found that trachoma is not observed in the geographical area occupied by the Celtic race." 2. "The immunity of the American negro is not absolute, it is relative as among Celts." 3. "Dr. Foucher has not observed a single case of trachoma among the Indians of Canada." 4. "Chibret reaches three conclusions: *a.* The relative immunity of the American negro. *b.* The relative immunity of the Celtic race. *c.* The absolute immunity of the Canadian Indian."

In the foregoing four quotations on trachoma, if one substituted the word malaria for trachoma, one would express just as much scientific fact and truth.

The geographical and racial distribution of malaria and trachoma are the same. Those countries and races free from malaria are also free from trachoma. Those countries and races subject to malaria are also subject to trachoma. Malaria and trachoma go hand in hand all over the world.

I am firmly convinced that the chronic autotoxemia that trachoma victims suffer from is a sequel of malaria.

Malaria is certainly capable of endowing its victims with a chronic autotoxemia, by its debilitating effect on the most important antitoxic organs of the body.

Trachoma is a chronic disease par excellence. Its chronic cause covers the whole life period of its victims.

It manifests itself in the three age periods—infancy, adolescence and maturity—in stages increasing in severity from infancy to the adult age. In infancy it is characterized by chronic conjunctival congestions and lymphangectosis, which is the first stage. The second stage, found in adolescents, is characterized by “transient” follicular hypertrophy, known as follicular conjunctivitis; this stage readily yields to treatment, and the follicles disappear without leaving any trace behind. The third stage, found in the adult, is characterized by permanent follicular hypertrophy commonly known as granulated lids or trachoma.

This stage stubbornly resists local treatment only, and is generally complicated by some accidental superadded infection with some contagious germ (Koch-Weeks bacillus, diplococcus Morax-Axenfeld, gonococcus) which gives this stage of the disease its apparent contagious nature.

The severity of the disease in an individual case depends on the reaction hypertrophy present in the case, also on the “hereditary predisposition” transmitted from parent to offspring.

The typical trachoma lesion is the product of an evolution of a disease process, covering not only the life period of the individual case, but is actually running through the life history of the race affected with it.

In chronic phlyctenular keratitis Dr. H. S. Weaver has had very good results with *terebinthina* 30, particularly when tuberculosis was suspected.

For phlyctenular conjunctivitis try *tuberculinum* 30.

Olive oil, a widely differing and unstable compound, is nearly always acid in reaction, each of 232 samples analyzed contained free fatty acids varying from a little under one per cent. to as high as twenty-five per cent. Italian oil is the best—of this “Province oil” and “Aix oil” are the finest. The Portuguese oil is probably the poorest. Objectionable substances found in olive oil were: cænanthylic aldehyde and formic, acetic, butyric, cænanthylic, azelaic, and suberic acids.

SCHOOL HOUSE LIGHTING.

DANIEL WITWER WEAVER, M. D.,

Greensburg, Ind.

THE question of school house sanitation and lighting is discussed everywhere at present, yet nothing is so much misunderstood.

We talk about giving our children the best light conditions in the school rooms, so that we will not have as many broken down, nervous weaklings from eye strain. It is true that under the present and the old system of lighting many of the ills of mankind find their origin. We often hear of some of the older generation and some of the reactionists of the present say that when they went to school in an old log school house with few, small windows, no one wore glasses. Grant it. Neither did they use self binders, improved farming implements, automobiles, etc. They lived in the past and studied only a few lessons a few months of each year, and graduated (?) in a few years. There was no undue tax upon the eyes, hence few break-downs from eye strain.

The child today reads more in one year than her grandfather did in forty. We are living in an age when people do things, and those who get a good start in the public schools under the most favorable conditions to promote health are the ones who will score over the other less fortunate ones. Let us get the school house conditions ideal if possible.

We must have good ventilation, heat and light. I will not discuss the ventilation or heat, but will try to state clearly and simply the light conditions.

What are the essentials of good light? Quality, quantity; diffuseness, position, steadiness.

Let us analyse these essentials and then decide what it will take to bring the school house light up to the standard that we set.

Quality.—All light is composed of violet, indigo, blue, green, yellow, orange, red, and some invisible rays—ultra-violet. The value of light under which to work (from a hygienic point of view) depends upon the proportions of the various color rays of which a light is composed.

The rays which are least irritating to the eyes are yellow, orange and green. The irritating rays are the red and violet rays. In the selection of a light from a hygienic point of view (one restful to the eyes) we should select one which upon a prismatic analysis will show a low per cent. of violet and red rays. For school houses intended for day school we need not consider the quality, in so much that the most available light—day light—is the one light that fulfills the requirements for a light of good quality.

According to Meyer:

Sunlight consists of 97.3% of green, yellow and orange rays with 2.7% of violet.

Daylight contains 13% violet.

Gaslight contains 28.9% violet.

Incandescent electric contains 28.9% violet.

Voltaic arc light contains 3.9% violet.

For night school the arc light should offer the most restful light.

Quality.—It is more difficult to make a scientific standard for the quantity of light than for its quality. We have the sensitive plates used in photography that will aid in measuring quantity, but for all practical purposes we can say: the light must be of sufficient quantity to illuminate the object sufficiently for our observation. We need less light in a drawing room than in a reading room or less in an assembly room than in a school room. We need more light for all close eye work (say, sixteen inches from the eyes reading distance) than we do for work of a general nature around us. We too need a better light for long continued close application of our eyes than we will for a short periodical application. We can see from this that we cannot have a fixed standard of quantity for all purposes; but we make a standard for school houses. The State Board of Health of Indiana has fixed one for school houses, as follows: "Window glass space shall equal at least one-sixth of the area of the floor space." This is surely an arbitrary standard. Because trees and buildings adjoining may interfere seriously with the quantity of light that falls upon this 1/6th window space; again, the children sitting upon the opposite side of the room from which the light falls do not get an equal amount of light with the children sitting close to the windows; either some get too much or others not sufficient light.

Let us for the present say that the light for a school room must be of a sufficient quantity for all pupils to see clearly, distinctly (without

a strain) all their work, all hours of the day and all days of the school year.

Diffuseness.—Light in a school room (or for that matter for any close application of the eyes) must be diffused. No matter how good the quality of light nor how much the quantity, if it is not diffused throughout the room it is injurious to the eyes of the children.

The sun's rays are of a good quality and of a sufficient quantity, yet to have a child study with the sun's rays streaming upon the desk would be very injurious to the eyes because the glare would blind the eyes. The reason is that a strong glare of light forces the ciliary muscles to close the pupils to protect the retina. It is a difficult task for the ciliary muscles to do this and at the same time accommodate to see the lessons upon the desk. The ciliary muscles contract and relax continuously all day long in adjusting the focus to bring out objects of various distances upon the retina in clear cut images. There is also a continuous dilatation and contraction of the pupil to regulate the amount of light falling upon the retina. The more unequal, glaring or cross lights falling upon the eyes during study the more the strain upon the muscles that regulate the size of the pupil and the adjustment of the focal distance.

The eyes tire, the head aches, the child becomes nervous, restless, indifferent, dull, falls behind in work and becomes sick or discouraged.

This is equally true when the sun's rays fall upon half of the page and the other half is shaded. As the eyes move from the shaded side to the sunny side the pupils must contract, and when moving to the side that is shaded they must dilute again to allow enough light to enter the eye. This is why shadows are to be avoided upon the child's desk at school; the pupils are forced to contract and dilate continuously, which tires the eyes. A good illustration is the reading under a shade tree; we all have tried it and found how tired our eyes were in a few moments—the sun's rays stream through the branches in spots upon our book while all the rest is shaded. Of course if the shade is dense enough to exclude all the sun's rays then the strain is not so marked.

Summing up, we find that the best light for the school room is one that does not throw shadows, that is evenly distributed throughout the whole school room, does not strike the child's desk in streaks or glares.

Position.—This is easily solved. The desk shall be free from shadows and reflections. The light of a school room must come from the front, from the left, from the right, from the back, or from above.

The light from in front gives too much reflection and blinds the eyes, similarly (though not so intensely) to the reflection from the snow when one faces the sun's rays as they stream down upon the snow in front of us. The light reaching the desk from the front of the child will tire the eyes.

The light from the right side will throw shadows over the desk because the arm (right is usually used in writing) will obstruct some of the light. This gives the streaked light that tires the eye muscles.

From both right and left side will give a streaked uneven light because the arm will obstruct some of the light from the right, hence the left will be stronger. This tires the eyes because the eye muscles are overworked.

Light from behind the left shoulder is a better one for all right-handed children, because the light falls upon the desk evenly distributed and without a reflection, but it is entirely wrong for the left-handed children.

From the left and front, is open to the same objection as is all light from in front—it gives a reflection.

From the rear is objectionable because the child's body will make a shadow.

From right, front, left and back, all combined, is objectionable because the light from all directions is not of equal quantity and so much is from the front, hence is open to the objection of producing shadows and reflections.

The light from above is the only direction that is free from shadows and can be made free from reflections. The direct sun's rays must be excluded from the room, otherwise the glare or reflection will be annoying. This can be done by making the sky light of ground glass, which breaks up the direct sun's rays and diffuses them; or a ridged or prismatic glass can be used or better still will be the construction of a sky light or two out of the north side of the roof of such an angle that the sun's rays do not strike it directly, and have it composed of lightly ground glass. The north light is diffused light; there are no glaring, direct penetrating light rays from the north. All other directions have at some time of the day direct sun's rays that are tiresome to the eyes.

Position.—We find that the light in a school room must come from a position that will prevent the formation of shadows or reflections to be restful to the eyes—restful to all the children in the room, not alone to the ones that are fortunately located leaving the remainder to suffer from shadows, reflection or deficient light.

Steadiness.—Light must be steady to be restful to the eyes. A dazzling, wavering, unsteady, interrupted light is very injurious to the eyes. This is not necessary to consider in school room light when day light is the means of lighting.

So we can sum up the analysis of the essentials of good light and easily come to a decision as to what is the only ideal method of school house lighting. Let us make an application to the school room.

The only lighting that is free from all objectionable features is the north side sky light composed of a lightly ground or prismatic or ridged glass. This gives a light free from reflections and shadows, it is equally good for the children in the rear and front of the room, and for the teacher. This light at all times can be of sufficient quantity, is steady, diffused—free from shadows and reflections, its position is ideal. The eyes are protected against a too intense light overhead by the prominent forehead, eyebrows, eyelids and lashes. It is practicable for all country schools, or even city schools where enough ground is obtainable.

The hospital ward should afford 600 cubic feet of air for each patient.

Air space in a labor camp should be 400 cubic feet of air per sleeper, with $2\frac{1}{2}$ square feet of window— $\frac{1}{3}$ square foot of vent—per individual.

SOCIETIES.

AMERICAN HOMŒOPATHIC OPHTHALMOLOGICAL, OTOLOGICAL AND
LARYNGOLOGICAL SOCIETY.

Ann Arbor, Mich, April 18, 1911.

Fellow Members:

A tentative program of our next annual meeting is herewith submitted. It is not quite complete and will require some corrections, but will in the main serve to enliven your interest and attract you to Narragansett Pier the last of June.

It will be noticed, first, that headquarters will be at the Imperial Hotel in which the meeting will be held; second, that the first session begins Monday afternoon, June 26th, at 2:30 P. M.; third we have a very long program and that it will be necessary to begin promptly on time at each session in order to complete the program in the allotted four days; fourth, that an effort has been made to arrange the program so as not to conflict with the business sessions or social features of the Institute; fifth, that we are to have clinics at Boston Saturday afternoon, so that we may attend the Institute banquet and that these clinics will be held in the Massachusetts Homœopathic Hospital in East Concord Street.

It is hoped that as many of the members as possible will aim to be at the opening session Monday afternoon. It is discouraging to begin a meeting of this kind with a small attendance. Let us go early and stay late, getting the full benefit of a delightful week at Narragansett Pier.

DEAN W. MYERS,
Secretary.

TWENTY-FOURTH ANNUAL CONVENTION AT THE HOTEL IMPERIAL,
NARRAGANSETT PIER, R. I.

*Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday, June
26, 27, 28, 29 30, and July 1.*

The hours for the seven sessions are arranged to harmonize with the meetings of the American Institute of Homœopathy.

PROGRAM.

MONDAY AFTERNOON, JUNE 26, 1911.

2:30 to 6:00 P. M.

First session.

Call to order.

Appointment of Committees:

- (a) Attendance, (b) Nominations, (c) The Press.
 President's Address.
 Adoption of Program.

Symposium, Enucleation and Its Substitutes.

- A. E. IBERSHOFF, M. D., *Chairman*, Cleveland, O.
 1. "Fat Implantation," A. E. IBERSHOFF, M. D., Cleveland, O.
 2. "Catgut Ball," BURTON HASELTINE, M. D., Chicago, Ill.
 Discussion led by C. C. COLLIER, M. D., Chicago, Ill.

Symposium, Strabismus.

- EDGAR J. GEORGE, M. D., *Chairman*, Chicago, Ill.
 3. "Etiology of Strabismus," JOHN L. MOFFAT, M. D., Brooklyn, New York.
 4. "Nonsurgical Treatment of Strabismus," GEO. A. SHEPARD, M. D., New York, N. Y.
 5. "Surgical Treatment of Strabismus," G. A. SUFFA, M. D., Boston, Mass.
 Discussion led by E. J. GEORGE, M. D., Chicago, Ill.,
 and WM. M. MUNCY, M. D., Providence, R. I.

Symposium, Pathology of the Eye.

- F. O. NAGLE, M. D., *Chairman*, Philadelphia, Pa.
 6. "Complications of Interstitial Keratitis," FRANK O. NAGLE, M. D., Philadelphia, Pa.
 7. "Treatment of Interstitial Keratitis," WM. W. SPEAKMAN, M. D., Philadelphia, Pa.
 8. "Histopathology of the Optic Nerve," FRANK O. NAGLE, M. D., Philadelphia, Pa.
 Discussion led by GEORGE RAIGUEL, M. D., Philadelphia, Pa.

TUESDAY EVENING, JUNE 27.

8:00 to 10:00 P. M.

Second Session.

Symposium, Blood Pressure.

- ROYAL S. COPELAND, M. D., *Chairman*, New York, N. Y.
 9. "Blood Pressure from the Standpoint of the Physiologist and Pathologist," GEO. F. LAIDLAW, M. D., New York, N. Y.
 10. "The Sphygmomanometer in Practice with Interpretation of Its Readings," HARRISON G. SLOAT, M. D., New York, N. Y.
 11. "The Relationship Between Blood Pressure and Diseases of the Throat," ALONZO C. TENNEY, M. D., Chicago, Ill.
 12. "Blood Pressure as a Factor in Eye Diseases," ROYAL S. COPELAND, M. D., New York, N. Y.
 Open discussion.

Symposium, Bronchoscopy.

F. W. SMITH, M. D., *Chairman*, Philadelphia, Pa.

13. "Bronchoscopy," F. W. SMITH, M. D., Philadelphia, Pa.
14. "Bronchoscopy," OSCAR SEELEY, M. D., Philadelphia, Pa.

Symposium, Diseases of the Ethmoids.

J. I. DOWLING, M. D., *Chairman*, Albany, N. Y.

15. "Ethmoiditis," IRVING TOWNSEND, M. D., New York, N. Y.
 16. "Pathology," A. W. PALMER, M. D., New York, N. Y.
- Discussion led by J. I. DOWLING, M. D., Albany, N. Y.

WEDNESDAY AFTERNOON, JUNE 28.

2:30 to 6:00 P. M.

Third Session.

Report of Officers.
 Report of Committees.
 Report of Censors.
 Election of Members.
 Unfinished Business.
 New Business.
 Election of Officers.

Symposium, Labyrinth.

GEO. W. MACKENZIE, M. D., *Chairman*, Philadelphia, Pa.

17. "Physiology of the Labyrinth," WM. M. MUNCY, M. D., Providence, R. I.
 18. "Diagnosis of Labyrinth Suppuration," ELLA G. HUNT, M. D., Cincinnati, O.
 19. "Report of a Case," GEO. A. SHEPARD, M. D., New York, N. Y.
 20. "Hyperemia of the Labyrinth," H. P. BELLWS, M. D., Boston, Mass.
 21. "Report of a Case of Labyrinth Suppuration," GEO. A. DENMAN, M. D., Toledo, O.
 22. "Differential Diagnosis of Labyrinth Affections," A. E. IBER-SHOFF, M. D., Cleveland, O.
 23. "Complications of Labyrinth Suppuration," GILBERT J. PALEN, M. D., Philadelphia, Pa.
 24. "Prognosis and Treatment of Labyrinth Suppuration," ROYAL S. COPELAND, M. D., New York, N. Y.
 25. "Some Important Facts Worth Emphasizing Concerning the Labyrinth and Its Diseases," GEO. W. MACKENZIE, M. D., Philadelphia, Pa.
- Open discussion.

WEDNESDAY EVENING, JUNE 28.

8:00 to 10:00 P. M.

Fourth Session.

Symposium, X-Ray Flash Treatment.

E. H. LINNELL, M. D., *Chairman*, Norwich, Conn.

26. "Some Further Experiences in X-Ray Flash Treatment," E. D. BROOKS, M. D., Kalamazoo, Mich.

27. "A Final Word on X-Ray Flash Treatment," E. H. LINNELL, M. D., Norwich, Conn.
 Discussion by F. R. COOK, M. D. (originator of flash treatment), New York.
 C. G. FELLOWS, M. D., Chicago, Ill.
 H. D. SCHENCK, M. D., Brooklyn, New York.
 E. J. BISSELL, M. D., Rochester, N. Y.

Paper. (Illustrated with lantern slides.)

28. "Cerebral Localization," R. I. LLOYD, M. D., Brooklyn, New York.

THURSDAY EVENING, JUNE 29.

8:00 to 10:00 P. M.

Fifth Session.

Symposium, The Lymphoid Ring.

W. H. PHILLIPS, M. D., *Chairman*, Cleveland, O.

29. "From an Internist's Point of View," A. B. SCHNEIDER, M. D., Cleveland, O.
 30. "From a Specialist's Point of View," W. H. PHILLIPS, M. D., Cleveland, O.
 31. "Surgery of the Tonsil," HAROLD A. FOSTER, M. D., New York, N. Y.
 Discussion led by EUGENE MANN, M. D., St. Paul, Minn.
 H. W. HOYT, M. D., Rochester, N. Y.
 C. G. JENKINS, M. D., Lansing, Mich.

FRIDAY AFTERNOON, JUNE 30.

2:30 to 6:00 P. M.

Sixth Session.

Symposium, Ear Infections.

G. W. McDOWELL, M. D., *Chairman*, New York, N. Y.

32. "Bacteriology and Pathology of Middle Ear Infections," EDWIN S. MUNSON, M. D., New York, N. Y.
 33. "Sinus Thrombosis and Brain Abscess," G. DEWAYNE HALLETT, M. D., New York, N. Y.
 34. "A Case of Epidural Abscess with Paralysis of External Rectus," C. H. HELFRICH, M. D., New York, N. Y.
 35. "Typical and Atypical Cases of Mastoiditis," G. W. McDOWELL, M. D., New York, N. Y.
 36. "A Brain Abscess Case," ALTON G. WARNER, M. D., Brooklyn, New York.

Discussion by R. I. LLOYD, M. D., Brooklyn, New York.

W. E. REILY, M. D., Fulton, Mo.

J. M. PATTERSON, M. D., Kansas City, Mo.

SATURDAY AFTERNOON, JULY 1.

1:00 to 6:00 P. M.

Seventh Session.

Clinic

at the Massachusetts Homœopathic Hospital East Concord Street.

Superintendent Mann has kindly put the various operating rooms at our disposal for all the afternoon.

Announcement of operators next month.

ABSTRACTS OF PAPERS

to be presented at the Narragansett Pier, R. I., meeting, beginning Tuesday, June 27, 1911.

Fat Implantation.

A. E. IBERSHOFF, M. D., Cleveland, O.

Synopsis:

Attempts at cosmetic compensation for the blemish following enucleation are as old as the operation itself. The mere insertion of a prosthesis after removal of the eyeball has always been so unsatisfactory that substitute measures were soon attempted. Among these amputation of the anterior division of the pulv, exenteration, exenteration with insertion of a glass or gold ball, opticociliary neurectomy and finally enucleation with muscular anastomosis. There is obviously no substitute for simple enucleation in cases of malignant neoplasm, which fact alone suffices to insure the permanency of this proceeding. Furthermore most substitute procedures are by no means free from objectionable features and undesirable complications, as experience has amply demonstrated.

The retention of the capsule offers but slight cosmetic advantage owing to subsequent shrinkage. Yet this objection to exenteration is relatively slight compared to the difficulty of removing every vestige of the uveal tract and the consequent danger of sympathetic inflammation. In fact, it has been shown that the removal of every vestige of the uvea does not insure against sympathetic ophthalmia. Mule's operation is open to both these objections, to which is added a third, the possibility of subsequent extrusion of the inserted body.

Other substitute measures have been tried. Hertel implanted paraffin balls, Schmidt tried calcined bone, Elschnig inserted elder pith balls, others advocated sponge, catgut balls and other foreign substances. The chief reason for the unsatisfactory results so frequently observed after these operations seems to lie in the nature of the implanted substances. Extrusion of an implanted body is due to an inflammatory process resulting from either chemical irritation or mechanical pressure. By the use of bland substances, chemical irritation may be reduced to a point where it is no longer an important factor; not so with mechanical pressure.

If it be true that the success of any implantation method is largely a question of tissue tolerance it will be readily seen that heteroplastic procedures are the least hopeful. Autoplastic operations, on the other hand, offer much greater chances of success, inasmuch as they eliminate

the factor of tissue intolerance. Implantation of a mass of subcutaneous fat was first devised by Barraquer and subsequently adopted by other Spanish-American surgeons. It remained for several years unknown to the general profession until Bartels introduced it in Germany. The operation was then adopted at Schnabel's Vienna clinic, where it has met with great success.

I first performed this operation in the fall of 1909. (See *Ophthalmic Record* and *Cleveland Medical and Surgical Reporter*.) The results obtained were so gratifying that I have continued to employ this method to the exclusion of all others, and so far without a single failure or undesirable complication. The technique I employ is briefly as follows:

A circumcorneal conjunctival incision is made and the conjunctiva undermined in all directions. The internal rectus is then picked up with a strabismus hook and a catgut suture, size "00," is passed thru the tendon on the distal side, after which the tendon is severed on the proximal side and the suture reflected out of the way. Each rectus is dealt with in like manner. Tenon's capsule is then entered and the eyeball freed of all attachments except the oblique muscles. The optic nerve is then cut well back from the globe and the eyeball rolled out of the socket after which the obliques are severed, together with any remaining adhesions, and the resulting hemorrhage controlled by pressing gauze pledgets into the wound.

In a previously prepared area on the abdomen or, if the patient be emaciated, in the region of the nates, a cutaneous incision is made about two inches long, and a mass of fat about the size of a walnut carefully excised under aseptic precautions and immediately transferred to the orbital wound. Adipose tissue is rather an "elusive" tissue and as difficult to confine as a bloated bowel after an abdominal operation. The inserted mass should be of such size as to protrude slightly above the capsular rim. It is, of course, possible to implant too much, in which case the pressure resulting from its confinement in the capsule will result in sloughing. Furthermore, there will be danger of pouting, teat-like protrusions between the sutures inserted, and in patients of advanced years the operator will be annoyed by the tearing out of the sutures, especially those attached to the muscles, in which case the formation of a crucial musculature will be defeated and the resulting mobility of the stump diminished.

The fatty tissue having been inserted, the muscle sutures are carefully tied uniting the four recti over the same. Tenon's capsule is then sutured with fine carbolyzed catgut, the stitches being placed near together to prevent pouting of the encapsulated mass. Should any particles protrude they must be carefully trimmed off. The conjunctiva is then sutured with black silk and the usual dressing applied without pressure. Cleansing the parts daily with bichloride and flooding the conjunctival sac with boric acid, half saturated solution, constitutes

the after treatment. The silk sutures may be removed on the fifth or sixth day and a shell eye fitted about two weeks later.

Complications of Interstitial Keratitis.

FRANK O. NAGLE, M. D., Philadelphia, Pa.

Synopsis:

- (a) General consideration of syphilitic processes of the eye.
- (b) Interstitial keratitis acquired, congenital, traumatic.
- (c) Pathology.
- (d) Complications:
 - 1. Sclerosing of the cornea; 2. acute hypertonia; 3. glaucoma; 4. iridocyclitis; 5. peripheral chorioiditis; 6. optic neuritis; 7. deafness.

Histology of the optic nerve.

Intraocular entrance of the optic nerve.

Normal varieties of the optic discs.

Pathological processes of the optic nerve.

Glaucomatous cup—optic atrophies—choked disc.

Pathological Changes of the Optic Nerve.

FRANK O. NAGLE, M. D., Chicago, Ill.

Synopsis:

Will review glaucoma, choked disc, the atrophies, myopia, beside going into a complete description of the histology of the optic nerve entrance with its variations. Presentation of microscopical slides illustrating all the conditions and points of the eye.

Physiology of the Labyrinth.

WM. M. MUNCY, M. D., Providence, R. I.

Synopsis:

I. Brief history of physiology up to 1909. II. Biological gleanings. Experiments showing functions on fish, frogs and mammals. III. Gleanings from medical papers. Where objective or subjective symptoms show physiological action. IV. Histological gleanings. Facts that may tend to show function of individual parts. V. Function of semicircular canals, utricle, saccule and cochlea.

Hyperemia of the Labyrinth.

H. P. BELLOWES, M. D., Boston, Mass.

Synopsis:

This paper consists of a brief consideration of the pathological condition involved, followed by the presentation, in detail, of two cases from the writer's personal experience which are of rather unique interest. The question of treatment is dwelt upon with particular care.

A Case of Labyrinth Suppuration.

GEO. DENMAN, M. D., Toledo, O.

Report of a case.

A Final Word Regarding Roentgen Ray Flash Treatment.

E. H. LINNELL, M. D., Norwich, Conn.

Synopsis:

I have now been using the flashes nearly three years—time enough to form an intelligent and unbiased opinion of their value.

My experience confirms the views already expressed and warrants a continuation of their employment in suitable cases.

Results depend largely upon the operator's technique and upon his judgment and experience.

The failures reported seem to be explainable by faulty technique, lack of skill and the selection of unsuitable cases.

In this paper I shall not narrate additional cases of eye diseases successfully treated as that would only be a repetition of former reports and would perhaps be no more convincing.

Rather I shall attempt to answer some adverse criticisms and to demonstrate the constitutional effects of the rays as shown by changes in the blood pressure, pulse rate and temperature.

Some Further Experiences in X-Ray Flash Treatment.

E. D. BROOKS, M. D., Kalamazoo, Mich.

Synopsis:

Case 1.—E. G., congenital amblyopia not relieved; chronic otorrhœa cured.

Case 2.—F. F., congenital amblyopia relieved.

Case 3.—Mrs. S. M. S., senile cataract much improved.

Case 4.—Mrs. A. S., cortical cataract improved at first, later progressed.

Case 5.—Miss L. O., goiter relieved.

Case 6.—Addie W., goiter relieved.

Case 7.—Mrs. E. D. B., adenoma relieved.

Case 8.—J. V. D. L., detached retina relieved.

Case 9.—E. D. B., catarrh of accessory sinuses cured.

Case 10.—F. R. W., otorrhœa benefited; still under treatment.

Case 11.—B. Z., exophthalmic goiter benefited.

Bacteriology and Pathology of Middle Ear Infections.

EDWIN S. MUNSON, M. D., New York,

Synopsis:

This subject will be presented by a paper dealing with the accepted views of the authorities in this field of work

Chronic Mastoiditis, Radical Operation, Evacuation of a Temporo-sphenoidal Brain Abscess and Septic Cerebritis.

G. DEWAYNE HALLETT, M. D., New York.

Synopsis:

Strong young man, 29 years old, iron worker. Chronic purulent otitis. Polypus removed; severe headaches, not localized clearly. Three weeks later radical operation. Sinus, dura and labyrinth normal. Failure of improvement in symptoms, but on contrary further headaches, disorientation and optic neuritis. Four days later trephined and two ounces of pus evacuated from temporo-sphenoidal region. Prompt relief of symptoms; but presently hernia cerebri, mental dullness, and gradual decline to coma and death after two weeks with sharp rise of temperature just preceding. No vomiting, nor did pulse and temperature curve aid in diagnosis.

Mastoiditis, Typical and Atypical.

GEORGE W. McDOWELL, M. D., New York.

Synopsis:

The typical case was seen early. Intense pain, redness and bulging of drumhead. Free incision did not stop process. Pain increased with redness and swelling over mastoid. Simple mastoid operation. Extensive destruction of bone. Prompt healing with restoration of hearing.

Atypical Cases.

Case 1.—Man 50. History of acute suppuration healed by another aurist. When seen patient had pain in mastoid region which had been diagnosed as neuralgic. Ear dry, perforation healed, no redness of drumhead, no swelling or redness of mastoid. Symptoms present were *very* slight pressure sensitiveness over tip, slight rise of temperature, and marked rigidity of sternocleidomastoid muscle.

Simple operation. Extensive destruction of bone. Dura and sinus exposed. Deep abscess in neck, in retropharyngeal region and extending under scalp nearly to the median line posteriorly. Long convalescence complicated by an attack of erysipelas which was followed by rapid subsidence of discharge from abscess cavities.

Case 2.—Woman physician. Acute pain in right ear coming and going, and at times alternating with pain in left ear. Ear often examined by relative, who found congestion of Shrapnell's membrane at times and at other times no redness. Five weeks after onset pain became intense with symptoms of meningitis. A week later ear was examined by specialist, who found slight redness of Shrapnell's membrane, but no bulging or mastoid tenderness. Mastoid disease excluded. Family physician diagnosed brain tumor. Two weeks later swelling over the occiput. Another physician diagnosed malaria with

glandular swelling. Later swelling moved to neck and sarcoma was the diagnosis, the condition declared inoperable. Swelling increased and slight fluctuation was discovered. Blood count now showed increased leucocytes. Case seen by writer fourteen weeks from time otalgia was noticed. Side of neck greatly swollen with soft area in middle. Immediate incision was made and half pint evacuated. Patient so weak that it was not deemed advisable to remove to hospital for several days. Mastoid operation. Large pus pocket extending into neck and toward occiput. Made a slow but uneventful recovery.

A Brain Abscess Case.

ALTON G. WARNER, M. D., Brooklyn, New York.

Synopsis:

No history of this case could be obtained except that of severe pain for several weeks and discharge from ear "for a long time." Cerebral abscess was suspected from the severity and duration of the pain, tho the pulse was accelerated instead of slow. Rupture of the lateral sinus and the bad condition of the patient under anesthesia prevented further operation after cleaning out the mastoid. There was entire relief of pain with normal pulse and temperature for forty-eight hours, then sudden collapse and death. Rupture of abscess into the lateral ventricle expected and found at autopsy.

The Lymphoid Ring from the Internist's Point of View.

A. B. SCHNEIDER, M. D., Cleveland, O.

Synopsis:

The internist is not yet ready to abandon this field to the operating laryngologist.

Morphological and comparative, as well as limited clinical data, indicate that these strictures serve a definite purpose in the animal economy, and are not vestigial. Their indiscriminate removal is not endorsed.

Tonsillar tissue thru irritation of infectious organisms is stimulated not only in active proliferation of militant phagocytes, but this activity leads to the development in the blood of specific antibodies protective against related infection.

A definite relationship between tonsillar affections and certain systemic diseases is evident in clinical history.

In the matter of the tonsil as a portal of entrance for disease germs the question would seem to be whether because the tonsil occasionally fails in its protective function it should be universally condemned as worse than useless.

Hypertrophy of this tissue to the extent of definite interference with respiration is undoubtedly productive of serious developmental faults of the respiratory organs accompanied by markedly deficient physical

and mental vigor. In these cases appropriate operative treatment is unqualifiedly endorsed.

Appropriate internal treatment with mild local measures is sufficient in acute inflammations. Radical abortive treatment has seemed to precipitate rheumatic complications. Many more or less chronic affections are definitely influenced by the indicated remedy, and make more satisfactory progress when this is made the keystone of their treatment.

The recurrence of adenoid and tonsillar growths after operation would point to recently exploited radical methods as most satisfactory when operation is indicated.

Surgery of the Tonsil.

HAROLD A. FOSTER, M. D., New York.

Synopsis:

1. Anatomy and pathology.
2. Choice of operation.
3. Special stress upon finger dissection.

Etiology of Strabismus.

JOHN L. MOFFAT, M. D., Brooklyn, N. Y.

Synopsis:

Squint, other than paralytic, has as its prime factor—underlying amblyopia, refractive errors, muscular anomalies, ocular lesions and nervous affections—some defect in the fusion sense. Differentiate between the fusion faculty (or sense) and the fusion center. The fusion sense is a developmental faculty which may fail to develop on account of congenital anomalies; it may develop rapidly after correction of errors and the inauguration of fusion training, and in some cases it deteriorates after cessation of treatment.

Aubineau considers strabismus an attribute of neuropathic families, even a stigma of degeneration, and that heredity plays an important part among the causes.

The central lesion causing paralytic squint may be cortical; "the cortical motor center for each muscle is at the same time a center for the inhibition of its antagonist."

The cerebellar form of conjugate deviation is considered an irritative lesion.

The conjugate deviation of pontine lesions involves both deviation and paralysis; the later is explained by interruption of the posterior longitudinal bundle, while the deviation (which is less often present than the paralysis) is caused by irritation of the same path in the opposite side of the pons.

THE HOMŒOPATHIC MEDICAL SOCIETY OF THE STATE OF NEW YORK held its annual meeting at Albany February 14th and 15th, 1911. The scientific program was exceptionally good and included addresses by Drs. Alonzo Howard, Boston, Mass.; DeWitt G. Wilcox, Boston, Mass.; R. W. White, Scranton, Pa.; W. S. Magill, Albany, N. Y., and George W. Mackenzie, Philadelphia, Pa., guests of the society. The Bureau of Materia Medica was made a special feature, the chairman, Dr. C. C. Howard, presenting fifteen papers.

The semi-annual meeting will be held (by invitation) in New York city during the second week in October.

The necrologist, Dr. John L. Moffat, reported the deaths of the following members: S. T. Birdsall, E. S. Coburn, W. N. Delabarre, H. D. Knickerbocker, W. S. Searle, C. W. Swartz, P. W. Shedd, John F. Wage.

The following members resigned: Chester R. Brown, Louis G. Newman, D. B. Hunt, Amelia Wright.

Nine physicians were elected to regular membership, and one, Henry F. Schantz, M. D., President of the Homœopathic Medical Society of the State of Pennsylvania, to honorary membership.

Dr. H. R. Arndt, of San Francisco, and Dr. George W. Mackenzie, of Philadelphia, were nominated for honorary membership.

The following officers were elected to serve for the ensuing year:

President—ORANDO S. RITCH, M. D., Brooklyn.

First Vice-President—GEORGE R. CRITCHLOW, M. D., Buffalo.

Second Vice-President—MARCENA S. RICKER, M. D., Rochester.

Third Vice-President—GEORGE M. JENKINS, M. D., Binghamton.

Secretary—BERT B. CLARK, M. D., New York.

Treasurer—REEVE B. HOWLAND, M. D., Elmira.

Necrologist—JOHN L. MOFFAT, M. D., Brooklyn, New York.

Counsel—EDWIN VAN WORMER, ESQ., Albany.

Censors: R. C. WOODMAN, M. D., Middletown.

W. S. GARNSEY, M. D., Gloversville.

A. S. CALISCH, M. D., Oswego.

OTIS W. WILEY, M. D., Syracuse.

And to fill vacancies:

JOHN F. RANKEN, M. D., Brooklyn, New York.

GLEN I. BIDWELL, M. D., Rochester.

BOOK REVIEWS.

A TREATISE ON DISEASES OF THE NOSE, THROAT AND EAR. By WILLIAM LINCOLN BALLENGER, M. D., Professor of Laryngology, Rhinology and Otology in the College of Physicians and Surgeons, Chicago. *New (3d) edition, thoroly revised.* Octavo, 983 pages, with 506 engravings, mostly original, and 22 plates. Cloth, \$5.50, *net.* Lea & Febiger, Philadelphia and New York, 1911.

This third edition within less than three years (during part of which time the book has been out of print) bears witness to its popularity at least, and a glance thru its pages will show that this success is due to merit. To those familiar with the preceding editions it is enough to state that sixty of the drawings and five of the plates (three in colors) are new and among the many new features which bring the book really up to date; mention will be here made only of a few:

Goldsmith's plastic operation for closure of recent perforations of the septum; discussing the choice of a sinus operation we find the Canfield-Ballenger recommended for the cure of chronic empyema of the antrum of Highmore, and Fletcher's disc punch forceps as the latest thing for sphenoidal operation; Vincent's angina; the recent advances in the application of vaccine therapy in the treatment of infectious diseases of the accessory sinuses, ear, throat and meninges; Sluder's removal of the tonsil with intact capsule; thoro revision of functional tests of the vestibular apparatus and of the section on labyrinthine disease; Seymour Oppenheimer's views as to the value of blood cultures in aiding the early diagnosis of thrombosis of the lateral sinus, and a discussion of the comparative value of Richards' and the Neumann operation.

The above indicates the value of this beautiful work for the exclusivist and the specialist, while its clear covering of elementary points and detailed description and illustration of operation make it of great value to students and to practitioners who from their isolation find themselves obliged to tackle some of these problems at times.

As usual, the publishers have done their part beautifully.

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No. 6

EDITORIAL.

QUARANTINE INFLUENZA.

IT is needless to remind our readers that even apparently well people frequently harbor pathogenetic bacteria in the mouth, and there is more than a possibility that when one with a cold coughs or sneezes he or she will spray the atmosphere with the bacillus influenzae and even more serious germs.

A common cold is infectious. It may be the beginning of bronchitis, pneumonia, earache, deafness, inflammation—even suppuration—of the accessory nasal sinuses and of the middle ear, thus eventually of mastoiditis and sinus infection with fatal consequences.

The infectious nature of a cold should be generally recognized. The *New York State Journal of Medicine* editorially suggests that children sneezing or coughing should be excluded from school; this is a dream of the theorist, of course it is impracticable.

But it is practicable to educate the laity—train adults as well as children—to catch this spray from sneezing and coughing in the handkerchief or—in default of that—in the hand. *Verbum sap.*

We hope our readers will not content themselves with merely acquiescing theoretically in this position, but trust that each will constitute himself or herself an active propagandist of the gospel of sanitation in this as well as in other directions.

REPORT INFECTIOUS VENEREAL CASES.

The King's County Homœopathic Medical Society at its April meeting this year adopted a resolution requesting the Health Commissioner of the City of New York to add syphilis and gonorrhœa to the list of contagious diseases to be reported.

Other societies have taken and will take the same step. Assurance was given by an eminent judge that the Health Department has this authority and that reporting cases in obedience to such a law would not be an actionable infringement of the law concerning privileged communications.

The profession and the community are coming to realize the duty of protecting innocent sufferers from these horrible diseases; the movement is under way, and although the task is much more difficult than the campaign against tuberculosis its success is just as inevitable.

Many—most—doctors will oppose this and principally from fear of losing patients. But that may be moderated by the fact that the obligation will bear equally upon all reputable (and disreputable) physicians and that our patients will find it better to be treated by physicians than by quacks. If necessary, evasion of the law will be followed by such consequences as actually to deter any but the potential criminal from failing to comply with the regulation. At first, probably the report will be treated more confidentially than our tuberculosis reports.

The next step should be a formal amendment of the law exempting such cases from the class of privileged communications to the extent, under careful regulations, of protecting the innocent fiancée, wife or husband.

Even without either of these laws being enacted much good will be subserved by agitation for or against them, because this will in so far educate the community and education is the master-word of the struggle.

CORRECTIONS.

In justice to Drs. Fred. D. Lewis and F. G. Ritchie we call attention to typographical errors in their papers last month "Tonsillotomy or Tonsillectomy" and "Two New Operations for Advancement."

On page 167, second paragraph, insert—to follow line six: advantage over excision of the hypertrophied portion I had ceased doing it. He replied that unless I did do tonsillectomies I would lose

On page 168 the second word of the second fresh paragraph should be tonsillotomy, not tonsillectomy.

Also, in Dr. Ritchie's paper, on page 157, line 35, read 1/1500 instead of 1/500. Page 164, line 20, read symmetrically instead of systematically.

A CASE OF PULSATING EXOPHTHALMOS.*

GILBERT J. PALEN, M. D.,

Philadelphia, Pa.

THE patient, Mrs. M. M. B., aged 65 years, was first seen by Dr. Robert J. McNeill, her physician, on the evening of October 18, 1908. She was complaining at that time of terrific pain in the right eye, extending into the head, accompanied by photophobia and lacrimation. In forty-eight hours there occurred a vesicular eruption along the course of the supraorbital nerve of the right side; this eruption disappeared in three or four days. On October 21st the pain, which had been recurring at intervals, became more intense and on October 22d she was unable to open the right eye. There was no inflammation of the eye at this time. She had been under treatment by Dr. McNeill prior to this for chronic interstitial nephritis, atheroma and hypertrophy of the heart.

On November 9th Dr. McNeill asked me to see the case with him. At this time there was marked ptosis, quite perceptible proptosis, the pupil was dilated and the eyeball deviated outward and somewhat downward. The vision was below normal and the optic disc swollen, the veins being tortuous and engorged. On questioning the patient closely, she stated she had had, for some days prior to the onset of her attack, a very intense noise in the head which was continuous but seemed increased at every heart beat; this noise she described as a "rushing sound like rushing water" and it did not cease until the onset of her pain on October 18th.

As a child she had had whooping cough and measles. At the age of seven years she was struck on the right side of the head by the handle of a pump windlass, but there was no apparent trouble following this. When eight years of age had bilious intermittent fever; scarlet fever at eleven years; varioloid when twenty-one years of age; has had the grip three different times, but no acute illness prior to the onset of the present condition.

The patient was sent to St. Luke's Homœopathic Hospital on November 10th. I saw her again the afternoon of this day. The proptosis had increased considerably, there was beginning chemosis and

*Written especially for this JOURNAL.

the vision was less. Using the stethoscope a bruit was perceptible; this could be heard plainest directly over the eyeball and the right antrum, less intensely over the right side of the head and with diminishing intensity downward on the right side of the neck. This bruit had the sound of a tubular breathing with marked systolic accentuations. When pressure was made on the right common carotid there was an immediate cessation of the bruit and it was possible to press the eyeball back into the orbit easily. Pressure on the left carotid had no effect. At this time there was no pulsation.

The patient refusing operation, she was placed in bed in the recumbent position and compression of the carotid resorted to. On November 13th the eyeball protruded markedly and was fixed in the median position. There were marked chemosis, complete ectropion of the lower lid, the cornea was insensitive and dull, the swelling of the disc was very intense. At the upper inner angle of the orbit there was a soft compressible tumor and the veins above and to the temporal side of the orbit were engorged. Placing the hand upon the tumor a distinct pulsation could be felt and on close observation beginning pulsation of the eyeball was noticed.

The condition as pictured increased markedly during the next few days, the patient suffering intensely during the entire time. The bruit increased in intensity and could be heard over the entire head, being at the time of its greatest intensity most marked over the right orbit and over the right and left mastoid processes. It seemed to me, on careful auscultation, that the sound was transmitted backward from the mastoid processes along the lines of the lateral sinus, as the intensity of the bruit lessened when auscultating above and below the sinus; the intensity also increased somewhat below the mastoid along the jugular. The character of the bruit was altered during the course of the condition only in that it seemed to be raised in pitch and the tubular quality to be more pure, the systolic accentuations being considerably higher in pitch than the fundamental bruit.

Digital compression of the carotid bringing about no improvement in the condition, and as the patient still refused operation, she was given potassium iodide in ascending doses. Following this there was a lessening of the chemosis and the eyeball receded somewhat, altho there was marked protrusion at the time of her discharge from the hospital. On January 10, 1909, the patient left the hospital. At this time, as stated, there was less protrusion of the eyeball, less ectropion

and lessened pulsation, altho this was still perceptible. The vision was gone and there was beginning atrophy of the disc. The pupil showed a medium dilatation, the eyeball was still fixed in the median position. The bruit had at this time its greatest intensity.

The treatment as outlined was continued at her home. The proptosis lessening, the pulsation disappearing about the latter part of January. After this the condition remained about the same until March 1st when the patient had a severe hemorrhage from the left nostril, after which the eyeball receded greatly. On March 16th the patient came to my office when I noted the following conditions: The right eyeball displaced slightly downward. There was slight movement of the eyeball in all directions, but especially downward. Slight movement of the upper lid; proptosis scarcely perceptible; no engorgement of veins about the orbit or any swelling about the inner angle; no pulsation. The pupil was dilated, the anterior chamber normal. There was some dilatation of the upper conjunctival vessels. Vision right eye, 0, complete atrophy of the optic disc. The bruit could still be heard over the entire head, being most marked at the points already named. On November 16, 1910, I again saw the patient. At this time there was slight increase in the movement of the eyeball in all directions and slight increase in the ability of the patient to raise the upper lid. The patient noticed a puffing sound which she referred to a point back of the ear on the left side. With a stethoscope, I found the bruit to be heard best over the right side over the mastoid and around the base of the skull to the occiput, although it could be heard somewhat over the entire head. The point at which it could be best heard, on the left side, being over the mastoid. There were some pigment areas in the retina, a large vitreous opacity and large posterior polar opacity.

On January 24, 1911, the patient again presented herself. The ocular conditions were about the same as at the previous visit, but on examination for bruit I was greeted by silence and, although I examined carefully, no sound could be heard at any point on the skull or in the neck. I saw the patient last on the 27th of March, at this time the eyeball occupied the normal position. There was still partial ptosis, slight increase in the ocular movements, the other ocular conditions being the same. The patient could detect no noise in the head, there was no return of the bruit and the patient felt generally well.

A number of very interesting cases of Pulsating Exophthalmos have

been recorded. DeSchweinitz and Holloway have found three hundred and thirteen cases until July, 1907. The first case was described by Travers in 1807; following this many individual cases have been recorded and these have been further grouped and considered in very thorough and scientific articles by Sattler, Rivington, DeSchweinitz and Holloway.

The author can do no more than give a brief resumé of the condition, as culled from a study of the literature.

The early writers looked upon the condition as due to an intra-orbital aneurism or an "aneurism by anastomosis." Later writers, however, proved the lesion to be extra-orbital, namely aneurism of the internal carotid, aneurism of the ophthalmic artery, or an arteriovenous communication between the internal carotid and the cavernous sinus. Some writers contend that the term "pulsating exophthalmos" should be applied only to those cases due to the arteriovenous communication, altho admitting that the typical symptom-complex (exophthalmos, pulsation and bruit) may occur from tumors in the orbit or the other above named conditions.

Trauma, either direct or indirect, is the cause of the majority of cases; the other cases being of "spontaneous or idiopathic" origin. The condition may be unilateral or bilateral; when the latter, it is due to an extension to the sinuses of the other side through the transverse and circular sinuses.

The bruit has varied in recorded cases. It is usually the first subjective symptom and has been variously described by patients. Starting suddenly, it persists for a varying time before the exophthalmos and pulsation become apparent. This bruit, as described by examiners, has also been found to vary in its character, it having been found by some examiners to be intermittent, by others continuous with systolic accentuations. The latter has been found in the majority of recorded cases and has been held by some writers as pointing to the arteriovenous communication as the existing lesion. The bruit has been found further to vary greatly as to its intensity, in some cases it having been very loud while in others scarcely perceptible. The point at which the bruit has been heard with the greatest intensity has been usually over the affected eye or back of the ear of the affected side, although in the majority of cases it has been heard over the entire head. Compression of the carotid of the affected side has caused a temporary cessation of the bruit in nearly all cases; there have been but a few

cases reported where this did not result, and in two or three cases the bruit ceased only when the carotid of the opposite side was compressed.

DeSchweinitz and Holloway state: "The proptosis may be straight forward or eccentric, the most frequent position being down and out * * * pressure upon the eyeball as a rule reduces the exophthalmos, although not always * * * compression of this character is usually painless and the globe promptly returns to its former position upon removal of the pressure." Pulsation develops later and is found either by palpation or, in the majority of cases, can be readily seen.

In the majority of cases recorded ligation of the carotid was resorted to with good results. In a few cases ligation of the distended orbital veins was tried, with some good results reported. Other cases were treated with potassium iodide.

The author believes the above cited case to have been one in which there existed a direct communication between the internal carotid and the cavernous sinus. There occurred a vesicular eruption along the supraorbital nerve, next a paralysis of the oculomotor (as proven by the ptosis, dilatation of the pupil and paralysis of all the eye muscles with the exception of the superior oblique and external rectus). The eye, while at first occupying a position downward and outward, ultimately assumed the median position and the author believes that at this time a paralysis of the abducens occurred, although realizing that this median position of the eyeball might have been due to the protrusion caused by conditions back of the eyeball. The occurrence of these palsies, together with a bruit having systolic accentuations, seem to the author to point to the arteriovenous lesion as the one present, the nerves having been affected in their passage through the cavernous sinus where they are closely related.

A peculiarity on this case, which I have not found in recorded cases, was the intensity of the murmur or bruit along the course of the lateral sinus, both over the mastoid and extending along the horizontal portion of the sinus. The intensity of the murmur lessened materially above and below this line. This was noticed after the bruit had existed some time and was not present in the early examinations.

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DeSchweinitz & Holloway, Pulsating Exophthalmos, 1908.

For complete literature references of this subject the reader is referred to literature references given in above articles.

1833 Chestnut Street.

Diabetes Mellitus, Soy Bean as a Food in. *Glycine hispida* is an annual leguminous plant which originally grew in a wild state from Cochin China to the south of Japan and to Java; it has been known in the United States for many years. The bean is peculiar in containing little or no starch, tho having a large percentage of protein, which may be utilized in the body in place of that of other vegetables and of meat.

From their experience with this food in eight diabetic patients, Friedenwald and Ruhräh consider it a valuable addition to the dietary. The patients were placed first upon an unlimited diet; second, upon the restricted (usual diabetic) diet; and third, upon restricted diet, together with the soy bean. In every instance except one, in which the elimination of sugar had already entirely ceased under the ordinary diabetic diet, there was a marked diminution in the percentage and total quantity of sugar passed when the soy bean was included in the dietary.

The bean is palatable and can be prepared in numerous ways. The beans may be taken as a vegetable by soaking them for about twelve to sixteen hours, until the skins come off, stirring until the skins rise to the surface and are removed, then boiling in salt water or with bacon until soft, and seasoned. When the bean is not available the flour from the soy bean can be utilized either as a gruel, in broths, or in biscuits or muffins. Inasmuch as *the soy flour contains no starch* the addition of some wheat flour (1 part to 5 parts of soy flour) in making muffins is required. The proportion of protein to carbohydrates is 8 to 10 times as large in the mixed soy and wheat flour as in gluten flour. In the cases in which this food was used the soy bean replaced largely the gluten of wheat bread, while the patients still remained upon the usual diabetic diet.—*Am. J. of the Med. Sciences*, December, 1910.

EDEMA OF THE UVULA; ITS SIGNIFICANCE AND TREATMENT.*

THOMAS L. SHEARER, M. B., C. M., EDINBURGH,

Baltimore, Md.

IN the vast majority of the cases which one meets in practice, acute uvulitis is an accompaniment of an inflammatory state of the neighboring tissues or of a pharyngitis. Edema of the uvula is practically, in varying degrees, nearly always present when the peritonsillar region is inflamed. In persons of an arthritic diathesis, general faucitis with acute uvulitis is frequently encountered; the digestive system is deranged, the bowels are constipated and the patient exhibits symptoms characteristic of gouty or rheumatic tendencies. Edema of the uvula is also not uncommonly seen in tertiary syphilis, in phthisis and in cases of general hydremia.

Whenever edema occurs without any special evidence of a local inflammatory disturbance, such as peritonsillitis, and particularly if the pharyngeal mucous membrane as well as the uvula is edematous, the condition of the kidneys should be investigated. It is not unusual in these latter cases to observe that the patient is heavy and drowsy; the respiration at times very hurried and associated with a sense of oppression over the region of the sternum; the voice is hoarse, rough, muffled as a result of some edema of the larynx and at times the trachea as well as the larger bronchial tubes may be the seat of slight edema with a watery secretion. In nearly all cases of acute uvulitis, particularly in those attaining an enormous size from edema, pain and obstruction in swallowing and breathing are present. Recently the writer saw a case of marked edema of the epiglottis and entire superior portion of the larynx due to the presence of an abscess in the right side of the neck, between the thyroid cartilage and the sternomastoid muscle.

The most alarming type, however, of edema of the laryngopharynx is that which is known as angioneurotic edema; this may follow suppression of a general urticaria or may occur either alone or with such

*Written especially for this JOURNAL.

a widespread cutaneous eruption. This has been held by many authorities to be due to vasomotor disturbances which are aroused by various substances, such as oysters, fish, strawberries, etc., that are toxic to that particular individual. However, a very low state of vitality, of the type which one often finds in a well marked neurasthenic, seems to be conducive to the onset of acute edema. The experiments of Rogowicz—in which he divided the vasoconstrictor fibers running with the hypoglossal nerve and simultaneously stimulated the vasodilator fibers which reach the tongue through the lingual nerve, producing edema of the tongue—would seem to confirm this view of the subject. In order however to explain the very rapidly appearing and disappearing localized edema, such as the wheals of urticaria and acute edema of the pharynx, it is not necessary to call upon the neurotic element if we accept the theory of Heidenhain that certain organic substances, such as an infusion of crab meat, may be classed as lymphagogue, the action of which is probably due to an influence upon the permeability of the capillary endothelial cells.

In the case of the ordinary inflammatory and noninflammatory edematous uvulæ, the local blood vessels assume their maximum degree of dilatation, increased formation of lymph follows, the capillary pressure is raised and the capillary walls are rendered more permeable.

The treatment of edematous pharyngitis will depend largely upon the conditions existing in each case. If a peritonsillar inflammation tending toward suppuration be present and the uvular edema is merely a part of it, *hepar* 3x tablets may be given and kept up until either nature or an incision liberates the pus; by the fourth day usually pus will be found if suppuration is going on. Some good purgative should be given and hot gargles of normal saline solution every three hours be employed. On the neck—just over the region of the tonsil—hot flaxseed poultices will hasten the formation of pus, but it is best not to make use of this measure unless one is reasonably certain that pus is forming. Once the pus begins to discharge peroxide of hydrogen may be added, in the proportion of three teaspoonsful to the half glass of hot saline solution and used as often as required to keep the fauces fairly clear of pus and thus to minimize the risk of further infection.

If the tonsillar swelling occurs in rheumatic or gouty subjects, *mercurius dulcis* (two grains) should be given at bedtime and followed next morning by a saline purgative. The internal remedy here indicated—practically a specific—is *apis mel.* 3x trituration, one tablet

every two hours. Locally the swelling may be diminished by the application of a 1 : 5000 solution of adrenalin chloride followed by painting the parts with a 20 per cent. solution of argyrol. After the attack has subsided the tonsils should be thoroughly explored and if any reliable evidence of diseased crypts is obtained, the glands should be carefully removed, including the capsule. Unless this is done the patient will be subject to constantly recurring attacks of congestion and edema—to say nothing of the danger of serious constitutional states, such as neuritis, endocarditis, severe gouty and rheumatic lesions.

Uric acid and its salts have justly been relegated to a back seat in the closet of useless theories; in the light of modern study they have very little to do with rheumatic or arthritic change—except as complicating elements. Therefore, drinking freely of good pure water will do as much good as the swallowing of gallons of lithia waters; the citrate of lithia in five-grain tablets is most injurious through its deleterious action upon the digestion.

If called to see a case of acute edema of the laryngopharynx, the parts should be sprayed with a solution of adrenalin chloride not stronger than 1 : 5000, for in rare instances (such as Dr. S. Cohen's case) the patient may have an idiosyncrasy for the drug and aggravation of the condition ensue! As soon as this has been done the patient should be placed in a hot tub bath; the bowels cleared of any toxic food bodies; all fish, clams, oysters, crabs, lobsters, sweets, strawberries, pears prohibited; six tablets of *apis* 3x dissolved in half a glass of water and a teaspoonful given every 15 minutes for an hour, then only every half hour. *Berberis vulgaris*, 3x dilution, may also be given—five drops every night on retiring; this remedy acts very well in cases of urticaria. Where edema—local or cutaneous—follows change of climate, *dulcamara* is good. If any case of throat edema is so acute and severe as to call for the additional scarification of the uvula or larynx, this should not be omitted.

905 N. Charles Street.

PHLYCTENULAR OPHTHALMIA FROM A HOMŒOPATHIC STANDPOINT.*

JAMES A. CAMPBELL, M., D.,

St. Louis, Mo.

PHLYCTENULAR inflammation of the eye occurs so frequently and has been described so often that I shall not attempt to offer any lengthy description of this familiar disease so distressing at times in children. But I desire to comment on it from a homœopathic point of view, as compared with that of our friends of the ancient regime.

Pain, photophobia, lachrimation and pustular eruption on the ocular conjunctiva limbus or cornea, so distressingly annoying, is the familiar picture. It is not a local disease but the local manifestation of some physical or nerve dyscrasia. It is herpetic in its nature and follows closely the laws which govern that form of eruption.

The prevailing treatment however is purely local, usually the yellow oxide of mercury salve or the insufflation of powdered calomel, and there is no question about the mitigating influence which these local remedies have. But under this form of treatment frequent relapses may often be seen, for this local treatment is directed against the result and not the cause; it is catching the smoke but ignoring the fire that causes the smoke. There is no place where the beautiful and prompt efficiency of the properly selected homœopathic remedy will bring a more prompt and beneficial result than in this class of disease.

The remedies most frequently indicated are: Sulphur, hepar, calcarea carbonica, calcarea sulphuricum, conium, arsenicum, aurum muriaticum, graphites, mercurius, pulsatilla; each being selected according to its well known symptoms.

While the most brilliant results follow the carefully selected remedy the general condition of the patient must be kept in mind, especially the diet. All sweets, pastries, greasy foods, butter, bananas, must be forbidden. Oatmeal is especially bad. Wheat breakfast foods, rice, cornmeal preparations, with plenty of fresh air, will help very much.

*Presented before the Kentucky State Homœopathic Association.

I find that hydroleine or Phillips' emulsion, a teaspoonful three times daily, is of great service.

It may be asked if all local treatment is to be condemned. By no means. A weak yellow oxide of mercury salve, or the dusting into the eye of a little powdered English calomel, once daily, assist very much in these cases. But the point I make is that the treatment is far more successful and permanent when the properly selected internal homœopathic remedy is given. I have verified the above suggestion in hundreds of cases in the last thirty-eight years of active eye work.

Mermod-Jaccard Building.

Diphtheria Antitoxin, Prophylaxis and Treatment of Untoward Effects of. Most of the reported deaths following the administration of antitoxin have occurred in individuals with unstable vasomotor systems, in asthmatics, those suffering from hay fever, acute and chronic bronchitis, and the class in whom the odors of animals awaken attacks of coryza and dyspnea. Such individuals should have horse serum administered only upon most urgent cause, and then with due prophylaxis.

In view of the facts that attacks of bronchial asthma are now quickly relieved by the injection of from 5 to 15 minims of the 1:1000 solution of adrenalin, and that urticaria, which is a prominent feature of the serum accidents, at times responds to the same treatment, R. Wallace suggests that the fatal serum accidents may be related to adrenal insufficiency or inadequacy, and that prophylaxis and treatment should be directed along this line.

He refers to the case of a child with diphtheria in whom, on the fourth day after injection of 3,000 units of antitoxin, a universal urticaria developed. Four hours after its appearance he gave 7 minims of adrenalin chlorid hypodermatically and five hours later 5 minims more; the edematous condition underwent prompt regression, and a coarse, scaly desquamation followed. The case is also mentioned of a young man, previously subject to asthmatic attacks which had been benefited by adrenalin chloride, in whom an immunizing dose of 500 units of antitoxin evoked within an hour an asthmatic paroxysm with cyanosis and universal urticaria. The patient was given an injection of 10 minims of adrenalin chloride solution, with prompt amelioration, and in three hours 10 minims more, with complete subsidence of symptoms. —*Med. Rec.*, January 7, 1911.

RELATION OF EYE STRAIN TO THE GENERAL HEALTH.*

FRED. D. LEWIS, M. D.,

Buffalo, N. Y.

THE trend of the practice of medicine to-day is toward the determination of the cause of disease, and its removal. The discovery of the particular pathologic germ that, when implanted on the suitable human soil will develop and produce a given disease, is followed today by efforts to prevent the spread of the causative bacteria rather than to provide measures for the cure of such disease. This is illustrated by the measures taken to quarantine patients suffering from contagious diseases, the prevention of the contamination of our water supply, etc.

In other words, the advanced physician is practicing today preventive medicine. A few years ago I had the privilege of presenting a paper at a meeting of the American Institute of Homœopathy in which I said that I hoped to live to see the day when the public would realize the importance of keeping well, and as they had learned the necessity of having the teeth looked over at certain intervals and thus preserving them so they would have a general physical examination made at stated intervals, say yearly, and so preserve their health.

That the eyes are in a great many instances the causative factor in disease is now a recognized fact.

This matter has been the subject of frequent papers, but has been presented by specialists and the general comment has been "Oh yes, those fellows are cranks and claim to cure everything with glasses." Is this comment entirely untrue? In the practice of every ophthalmologist there are numbers of cases where the wearing of proper glasses has relieved long standing indigestion, neurasthenia, sleeplessness, headaches, epilepsy, and furthermore with an eye strain the development of the growing child may be, and often is, interfered with so that the whole future of such a child is influenced through the eyes.

This can be readily understood when we realize that the sense of sight is of all our functions the most constantly in use. Should there

*Read before the Clinical Club of Buffalo, N. Y.

be a slight defect in the vision, the effort to overcome such defect, extending over perhaps fifteen hours daily, wastes an enormous amount of nerve energy. This waste going on for months and years deprives the other vital organs of sufficient nerve energy to do their work properly, and so nutrition itself is interfered with. Malnutrition resulting from the original eye defect opens the way to nonresistance for the entrance of disease germs, and the life of such a child may be shortened by years.

Dr. Geo. M. Gould published a series of volumes some years ago, entitled "Biographic Clinics," in which he reviewed the lives of DeQuincey, Carlyle, Darwin, Huxley, Browning and others, showing conclusively that these great authors suffered all their lives from general troubles (evidencing letters, etc.) which were directly due to eye defects.

DeQuincey took to opium for relief, a habit that he was unable to control until his sixty-second year, after his accommodation had been lost.

Huxley went on a long sea voyage where the eyes were used mostly for long distance, but—as letters show—after close work he suffered sea sickness.

All showed unquestioned evidence of where the source of their trouble was located.

Now an apparently curious fact, at first glance, is that a small amount of defect in the eyes is far more disastrous in its result to the general health than a larger amount. With a small amount the effort to overcome it is not great, but is continuous throughout the seeing hours; whereas it may be impossible for the patient to overcome a large amount, hence there is no effort made to do so and no loss of nerve energy, but the patient has to be content with a blurred vision.

This leads me to a suggestion by which it may be determined whether, in a given case of any length of standing, the eyes are a factor. The action of atropin dropped into the eye is to paralyze temporarily the accommodation; should there be no diseased condition of the eyes themselves a drop of 4 per cent. solution of atropin dropped into each eye once daily will put the eyes into the condition they would be at, say, sixty or sixty-five years, when the accommodation is lost through age. This takes away from the patient the power of overcoming any defect that may exist in the vision, so that element is eliminated. Should the general symptoms be relieved during this treat-

ment it shows positively that the eyes are the causative factor of all the trouble.

Dr. Prentice, of Chicago, some years ago advocated putting on patients a plus 3 spherical or stronger lens for constant wear where the visual defect was not apparent or only a slight defect could be determined; his object was to relax the accommodation for a better refraction. Such glasses would very much blur the vision and would act in a test case for the cause of a general trouble as the atropin solution would; if such glasses were worn for a week or ten days, and general symptoms disappeared, the conclusion would be that the eyes were defective.

A case that has been under my care for about fifteen years will illustrate what a profound effect may be produced by imperfect eyes. The lady now about forty-five years of age is an artist who uses her eyes as a means of livelihood, doing illustrating for story and magazine work. In giving me the history of her case she said that she had been sent to school when five years old. At the age of six she had learned to read children's books and used to get a book and settle herself in a corner and read for hours. During her early school life she was frequently sent home with severe headache. Her mother would put her to bed and the next day her head being relieved she returned to school. At an early age she developed a curvature of the spine; she was taken to a physician who gave her a plaster or leather jacket for support. At about fourteen years of age some one suggested that her eyes might be defective, so she was taken to a good oculist who found she needed glasses. She told me that with the putting on of the glasses life for her had been made comfortable for the first time in her existence. After a few years her spine grew stronger and the support was removed, its need having ceased. She comes to me at regular periods to be sure her glasses are right or that such change can be made as necessary before trouble is manifested.

It is quite easy I think to understand just the rationale of this case. At that period of her life when all of nature's efforts should be exerted to develop bone and muscle, the effort to see was exhausting her nerve energy to such an extent that her vital organs were starved for such force as they needed to do their work properly; result, nondevelopment. The waste stopped, her food, which at all times was proper and sufficient, was properly utilized and although she has today a crooked spine, she has developed into a strong and useful woman.

Realizing then what an important part the eyes play in regard to the general health, should we as a body of physicians see our patients go to the optician for glasses? Would it not be quite as logical to tell those needing drugs to go to the pharmacist for medicine without a prescription, as to go for glasses—which is also a remedy, but of much more importance than a drug remedy because the effect is to last longer—without a careful examination and prescription from an oculist? The optician is even more competent to prescribe for sick eyes than the ordinary drug clerk is for sick bodies.

The opticians in this state were legalized to test for and prescribe glasses several years ago by the passage of a bill in Albany, known as the optometry bill, yet by a glance at the advertisements in the papers and magazines one sees numbers of announcements from so-called optometry colleges or schools offering to teach in three weeks or less the art of refraction and giving for the course, and the fee, a beautifully engraved diploma of graduation. An advertisement in the Buffalo Evening News, April 6th, of Walbridge & Co. offers as a Friday bargain "Reading glasses, with strong three-inch lens, regular price 50c, special each 35c." Even the five and ten cent stores have glasses which customers may select for themselves. All of the department stores have optical departments, and most of the jewelry stores have what is termed an optometrist to examine eyes free.

One may get some idea of the harm that is being done by these incompetent examinations and sale of glasses, when one of the most sought after concessions at our great exhibitions is what is termed the "Glim Concession." At the Pan-American Exposition in Buffalo in 1901 the profit from this concession was \$25,000.00.

I would merely suggest in this paper that we each of us, when the opportunity arises, instruct our patients in the importance of having the eyes attended to, when necessary, by one who is thoroughly competent to do the work and who can recognize a diseased condition when it exists. Such a man is graduated in medicine as well as an oculist, and is not an optician.

We are far ahead of the old days, and we will keep ahead. The rapidity of progress will depend upon how every man tries to make the world better. A thousand years of progress could be crowded into fifty if every man would earnestly try to do his share. Eyes and attention must be turned to head where they belong.

188 Franklin Street.

THE LINGUAL TONSIL AS A CAUSE OF COUGH.*

CHAS. E. PAINE, M. D.,

Brooklyn, N. Y.

THE lingual tonsil, or as it is sometimes called, buccal or fourth tonsil, is situated at the base of the tongue behind the circumvallate papillæ and between them and the attachment of the epiglottis. It is usually divided into two lateral masses by the glosso-epiglottic ligament, but may consist of one large mass when greatly enlarged.

It consists of a number of elevations of lymphoid tissue supported by connective tissue. In the center of each elevation is a small opening leading to a central crypt which is lined with stratified pavement epithelium. At the bottom of each crypt lies the orifice of the duct to a mucous gland.

This structure on account of its location is prone to inflammations the same as the faucial tonsils, namely: acute inflammation, acute phlegmonous inflammation or abscess, hyperplasia, mycosis and varices.

It is the object of this short paper to speak of the lingual tonsil only as a cause of cough, that being the most common and most annoying symptom when this structure is diseased.

Hypertrophy is the more frequent condition met with, and is often overlooked as a cause of cough for the reason that it cannot be seen by the casual examination usually made with the tongue depressor alone, and which may reveal no inflammation or other objective symptom indicating the trouble at the base of the tongue. A laryngeal mirror must be used, when the growth will be plainly visible and the diagnosis easily made.

This condition occurs more frequently in adults than children and is more common in females than males, usually occurring between the ages of twenty and forty. Microscopically it is the same as the tissue of adenoids or tonsil except that the intermingled connective tissue is far greater than that found in hypertrophied tonsils or adenoids.

Symptoms are sometimes absent, but as a rule there is a sense of fullness or sensation of a lump in the throat which cannot be relieved by swallowing, although frequent attempts are made. This condition

*Read before the King's County (N. Y.) Homœopathic Medical Society.

is sometimes mistaken for globus hystericus which it simulates. Sometimes patients complain of a foreign body in the throat, a pricking sensation as though a splinter were in the throat or a tickling referred to about the lower level of the larynx.

Pain is rarely complained of except the pricking sensation mentioned. The use of the voice aggravates these symptoms and gives rise to the cough.

Cough is almost always a constant symptom and varies in its intensity and annoyance with the size of the hypertrophy and the nervous temperament of the patient. It is usually worse at night when lying down, also from laughing and the taking of a quick deep inspiration, for at such times the epiglottis comes in contact with the growth and produces a tickling resulting in cough.

The growth may attain a size large enough to cause deglutition difficulty, push the epiglottis backward or overhang it in such a way that it catches and at times causes a strangling or suffocation. By touching this hypertrophied lingual tonsil with the point of a laryngeal probe we can easily locate the cause of the irritating cough as the patient will usually exclaim, "That's where the cough is."

A case to illustrate to what extent this condition may go without being recognized is that of B. F., a female, age 30, a school teacher.

Complained of a dry throat for three or four years, and for one month before I examined her she had a continuous dry cough, tickling in the throat with hoarseness. Examination revealed hypertrophied inferior turbinates, follicular pharyngitis and large hypertrophied lingual tonsils. She had been losing weight for the three months previous, and had been told by a physician that he suspected tuberculosis, and had been treating for it.

From the hard racking, tickling, dry cough, the loss in weight and the general appearance of the patient it seemed at first as tho this diagnosis was quite probable, but on examination with the laryngeal mirror the hypertrophied tissue was easily seen to be the cause of the irritating cough, as it was in close apposition with the epiglottis all the time. I removed the growth at her first visit and the cough ceased immediately. Sixteen days after this operation the patient had gained three pounds. The subsequent treatments consisted of partial inferior turbinectomy in each naris and cauterization of the pharyngeal follicles.

The patient continued to improve and gain weight until discharged cured at the end of three months. The treatment of this condition

consists of thoroly cocainizing the part and cauterizing with the galvanocautery, or excision with the lingual tonsillotome, the latter being the one I prefer, as in my experience I believe it to be the quicker and more permanent cure for this condition. A lozenge of orthoform and menthol allowed to dissolve slowly in the mouth fifteen minutes before meals for two or three days after the operation will relieve any pain or discomfort while eating.

614 Marks Avenue.

DISCUSSION.

JOHN L. MOFFAT: This simply illustrates what Hahnemann taught, that we should be thoro in our examinations. How many physicians are content to prescribe for a cough without looking into the throat? The tendency of all specialists is to run to operations. I believe that most of us have not lost our confidence in medicines, and our materia medica is rich in remedies for hypertrophied conditions of glandular tissue. Dr. T. L. Shearer, of Baltimore, in a paper on the lingual tonsil stated as his belief that when we get a single explosive—"bung-hole"—cough it is due to enlarged lingual tonsil. Frequently the cough is repeated until some mucus is raised. Dr. Paine only speaks of one form of affection of the lingual tonsil, sometimes there is almost a varicose condition of that tissue. Three remedies suggest themselves by symptoms of cough which may be due to this condition:

Coccus cacti: Sensation of a crumb behind the larynx obliges him to swallow continually; great sensitiveness of the fauces, the patient gags as you attempt an examination; brushing the teeth causes cough; *paroxysms of tickling cough* end with expectoration of globules of mucus; tickling in the larynx; constant hawking from sensation as if the uvula were elongated.

Crocus: Feeling as if the uvula is elongated; the patient is apt to be hysterical.

Sticta: The "minute gun" cough; short, dry, hacking, constant, painless cough; worse at night lying down. I would like to have cases for publication of enlarged tonsil with or without cough where it could be shown that medicine had cured or relieved the condition without operation.

A. WORRALL PALMER: I think this paper is not only interesting but opportune. We are all familiar with the class of patients who come to us saying: "You will have to touch this palate of mine, I have that old tickling cough again." The tickling cough of the lingual tonsil is about the same as that of the elongated uvula: the idea of the general layman is that the palate is long and causes the cough. In many cases these patients have had their palates touched, as they say, with an astringent. My experience is that about one-third of these patients have enlarged lingual tonsils, and that there are more of these enlarge-

ments than most of us appreciate. It would be well for us all in these cases of tickling coughs to examine the base of the tongue. In speaking of the character of the cough it is a short, dry, tickling cough, not as Dr. Shearer says, altho he is a close observer.

In inflammations of the lingual tonsil I have found that *mercurius dulcis* has more of an affinity for that bit of tissue than has belladonna or the other common remedies for lymphoid inflammations of the throat. In this form of sore throat the patient will complain of the condition and yet on looking at it in the ordinary manner you find very little trouble; these cases are often diagnosed "rheumatic sore throat." If we look below the angle of the tongue some of these cases will turn out to be disease of the lingual tonsil.

This paper has called to mind a condition that singers will sometimes complain of, they cannot make a good "attack;" this has been found to be due to the edge of the epiglottis catching on the swollen lingual tonsil. These cases do not always come to the specialist who is looking for enlargements of the lingual tonsil, most of them go to the general practitioner. We should all be on the lookout for disease of this organ—it has not had as much attention as it deserves.

As to operation for enlargements, it is the same as for any part of Waldeyer's ring of lymphoid tissue. Personally, I prefer removal with the tonsillotome. Ignepuncture and galvanopuncture are apt to leave roughened surfaces that catch the food. I believe with Dr. Paine that the tonsillotome is the best instrument; it leaves a smooth surface and does not leave lymphoid glandular tissue liable to inflammation as does the cautery.

SOCIETIES.

AMERICAN HOMŒOPATHIC OPHTHALMOLOGICAL, OTOLOGICAL AND
LARYNGOLOGICAL SOCIETY.

Chicago, June 1, 1911.

Fellow Members:

On behalf of your Executive Committee I take this last opportunity of addressing you thru our JOURNAL before our twenty-fourth annual meeting. Our first session will be held at 2:30 p. m., Monday, June 26th, at our headquarters in the Imperial Hotel, Narragansett Pier, R. I. The program in detail was published by Secretary Myers in the May JOURNAL.

This program is a new departure in our society and the members should know something as to how it has been prepared. It consists of a series of symposia upon subjects of most immediate interest in our specialities. The old plan of writing circular letters to all members asking for isolated papers was not followed this year. An appeal was made to the members thru the JOURNAL suggesting the symposium plan and asking for suggestions and help. The appeal brought no response, but it surely was not futile for when the president and secretary took up the work personally they received the most splendid assistance. The result is a program which we believe to be unequalled in the history of our society. Each symposium is in charge of a member who is preëminent in his particular field and every subject is one of very live interest. Wherever possible the papers are to be supplemented by lantern exhibits, demonstrations, etc. The blood pressure symposium on Tuesday evening is of equal interest to general and special practitioners and all Institute members are invited. The program has been arranged with this in view.

Our sessions at Narragansett will close Friday afternoon, allowing the members to attend the Institute ball Friday evening. Saturday morning we will go to Boston, either by train or trolley, and luncheon will be served at 12 o'clock at the Massachusetts Homœopathic Hospital in East Concord street. Saturday afternoon from one to six o'clock will be devoted to clinics at the hospital. The Boston members under the chairmanship of ex-president Wells are planning to give us the full benefit of their splendid institution.

A special car for O. and O. members will be attached to the Institute train, leaving Chicago June 24th via the Lake Shore Railroad at 10:30 a. m. This train arrives in New York Sunday morning and will run thru to Narragansett Pier. Eastern members can take the train at New York.

All members should endeavor to be in attendance Monday afternoon as the program must be carried out on schedule. The twenty minute rule on reading papers will be followed and papers requiring longer time should be presented in abstract, leaving details for publication.

Dr. Muncy, the chairman of our local committee, has provided an excellent place for our sessions in the Imperial Hotel which will furnish elegant accommodations for all our members. The Institute sessions are only one block away. The attractions of the Pier and the social features of the Institute will combine to make this year's meeting especially enjoyable. Let us make the most of it.

BURTON HASELTINE, *President*.

122 South Michigan Ave.

Abstracts of papers to be presented at the Narragansett Pier, R. I., meeting, beginning Tuesday, June 27, 1911.

The Use of a Catgut Ball as a Substitute for Simple Enucleation.

BURTON HASELTINE, M. D., Chicago, Ill.

Synopsis:

I. From the number of reported cases where sympathetic trouble has followed evisceration and from two cases I have seen, I am convinced that complete enucleation is the only safe procedure where an eyeball is to be sacrificed.

II. Cosmetic effect should always have consideration where this in no way interferes with absolute safety.

III. The insertion of some kind of globe into Tenon's capsule seems to be a perfectly safe measure, and when this is successful the cosmetic result is usually good. I have employed the glass ball, the gold ball and the paraffin ball, with occasional success but often with either immediate or subsequent failure. These are all open to the objection of having a foreign body in the orbit, and it is only in a small proportion of cases that it is permanently retained. The paraffin seems to me the best of the three as it is partially absorbed and is better retained by the tissues.

IV. The difficulty in finding a suitable material is apparent, while the possible danger of leaving such a large mass to be absorbed is, of course, uncertain.

V. I first tried to avoid this danger by the insertion of a reticulated hollow sphere of catgut. The idea was to furnish a support over which the capsule and muscles could be sewn while at the same time forming a support for a blood clot that would later be replaced by connective tissue.

(The method of preparing this hollow catgut sphere is quite complicated, and will be described in the paper.)

VI. I employed this method first upon a young man in 1904. The sphere was retained without trouble but collapsed and was absorbed too rapidly, and, altho there is good motion of the stump, there was too much shrinking to furnish perfect support for prosthesis. A small remnant of the catgut was picked out ten days after the operation, but was so softened as to have no effect upon the result.

VII. I later tried the same plan with a young lady, using a heavier sphere with a smaller open space inside. The result was better than in the first case, but there was still too much shrinking of the stump.

VIII. I then decided that my blood clot was of no real value and decided to risk a solid ball of catgut. The catgut is borne better than any other foreign body, and with perfect technique it should offer no greater danger of infection. Personally, I believe that even if infection did occur it need not be a very serious matter.

IX. Hereafter I shall use a slightly larger ball than I have before, and as too rapid absorption is not desirable, it is possible I shall try a ball made partly of chromatinized gut.

(The special gut used and the manner of its preparation will be described in detail.)

X. Dr. Collier has a report of a case in which he tried the method and he will show photographs of the result.

Operations Upon the Lateral Eye Muscles.

GEORGE ALSON SUFFA, M. D., Boston, Mass.

Synopsis:

The large number and variety of operations devised to avoid tenotomy show dissatisfaction with the results obtained.

The reason why the majority of operators thruout the country still depend upon tenotomy for results is because the numerous methods of advancement—tucking, resection and their modifications, have lacked the requirements essential to their success, namely, (a) definite knowledge of the muscle to be operated upon, of its opponent, and of the amount of correction made, acquired by means of specially constructed instruments, and (b) a firm dependable anchorage for the suture at both ends, preventing either torsion or slipping at the time of placing the suture or during the healing process.

A series of diagrams, the foundation of which is a horizontal section thru the center of the orbital cavities, shows that when the visual lines are parallel the internal rectus muscles are at a disadvantage as compared with the externi. These diagrams also show the relative

extent of the contact arcs (contact of the muscle and tendon with the globe), (1) under normal conditions, (2) in strabismus, (3) after correction by tenotomy, and (4) after correction by the writer's method.

Demonstration of the mechanical reason why a tenotomy of the internus cannot be other than a faulty operation, and why a shortening of the externus is ideal.

The interni have a relatively large independent action and readily acquire adduction power, but they possess practically no recuperative power after tenotomy or shortening.

The tendency of the interni to converge and their frequent excessive susceptibility to stimulation in certain individuals account for convergent strabismus.

Obviously the efficiency of the internus of the deviating eye in convergent strabismus gradually decreases as the vision of the fixing eye approaches the near point, for at some point the deviating eye invariably begins to rotate outward, in relative divergence.

The externi lack the physical faculty to acquire adductive power but have a remarkable recuperative power after a displacement from tenotomy, after a tenotomy upon the interni, or after being shortened by the writer's method in correcting convergent strabismus.

Tenotomy of the internal recti is never allowable.

The writer's method of tucking the muscles, the various steps of which are shown, fulfills the requirements, and when properly done should be successful.

The Sphygmomanometer in Practice.

HARRISON G. SLOAT, M. D., New York.

Principles and Technique.

Interpretation of its readings.

Bronchoscopy and Esophagoscopy.

FRED. W. SMITH, M. D., and OSCAR SEELEY, M. D., Philadelphia.

Synopsis:

Bronchoscopy and esophagoscopy not only affords a safe method for removal of foreign bodies but also one of the most valuable aids in the diagnosis of laryngeal, tracheal and esophageal lesions. Bronchoscopy may be practiced either by the direct method or by the indirect in which the introduction is made thru a tracheotomy wound; the direct method can be followed in most cases. Direct examination is a more accurate means of diagnosis in every lesion except paralysis of the cords, here the indirect examination is better because of the mechanical interference of the tube. Technique of operating thru the laryngoscope is more quickly mastered than by the indirect method and is therefore that of election for all who have not opportunities for constant endolaryngeal practice.

Topical applications are more accurately made thru the tube and can

be applied to any point in the trachea and larger bifurcations of the bronchi. The removal of foreign bodies from the esophagus or respiratory tract may be effected under local or general anesthesia and in the erect or recumbent position; the position must not be changed after the tube is introduced.

Ethmoiditis.

IRVING TOWNSEND, M. D., New York.

Synopsis:

It will be my endeavor to elucidate and emphasize the following points in relation to this subject:

It is the duty of the rhinologist to correct the popular fallacy, not infrequently uncorrected by practitioners, that all or nearly all acute attacks of intranasal inflammation are to be considered as "catarrhal colds" and either treated as of slight importance or disregarded altogether.

Ethmoid inflammation in relation to acute rhinitis, la grippe and the acute exanthemata.

Differential diagnosis between acute inflammation, acute exacerbation of chronic inflammation, residual sinus infection, empyema, syphilis, cancer, tuberculosis and polypoid desquamation.

Serious local and constitutional results from neglect or failure to obtain proper treatment. Significance of prolonged nasal discharges and importance of clearing up in the subacute stage the last vestige of the so-called "catarrhal cold."

Treatment.

Diagnosis of Suppuration of the Labyrinth.

ELLA G. HUNT, M. D., Cincinnati, O.

Synopsis:

General symptoms of labyrinthine involvement.

Special significance of equilibrium tests as showing state and function of the semicircular canals: Nystagmus, rhythmic, rotatory, caloric, fistula tests (normal and pathological), vertigo of rotation.

Probable diagnosis as influenced by—

- (1) Cause and form of accompanying disease;
- (2) Operative findings during mastoid;
- (3) Intracranial complications, etc.

Cerebral Lesions as a Cause of Eye Symptoms.

RALPH I. LLOYD, M. D., Brooklyn-New York.

Synopsis:

The paper is an effort to show types of cases which call upon the oculist for relief of eye symptoms and headaches which are in reality due to disease of brain (or its blood vessels).

Case 1. Constant headache, in the presence of arterial pressure of

200 mm. Loss of speech and ability to write. Cortical lesion on left side of cerebrum, frontal lobe.

Case 2. Homonymous hemiopia, hemianesthesia, hemiplegia and word blindness. Lesion in interior of occipital lobe.

Case 3. Paralysis of 3d, 4th, two divisions of the 5th, and the 6th nerves. Gross lesion at the base of the brain.

Prognosis and Treatment of Labyrinthine Suppuration.

R. S. COPELAND, M. D., New York.

Synopsis :

PROGNOSIS.

The unreliability of laboratory findings.

The importance of spontaneous nystagmus.

The value of the caloric test.

TREATMENT.

A discussion of the operative measures.

THE SOUTHERN HOMŒOPATHIC MEDICAL ASSOCIATION

will meet in St. Louis, Missouri, October 18, 19, 20, 1911.

The following appointments of chairmen of bureaus have been made by President John T. Crebbin: Clinical Medicine, R. F. Rabe, New York; Materia Medica, Geo. A. Millies, St. Louis, Mo.; Ophthalmology, Otology and Laryngology, E. P. Howell, Houston, Tex.; Gynecology, E. S. Bailey, Chicago, Ill.; Pedology, Lewis P. Crutcher, Kansas City, Mo.; Sanitary Science, Chas. D. Hulbert, Ocala, Fla.; Surgery, Wm. Boies, Knoxville, Tenn.; Homœopathic Propagandism, H. R. Stout, Jacksonville, Fla.; Neurology, Benj. F. Bailey, Lincoln, Neb.; Obstetrics, A. L. Smethers, Anderson, S. C.

Application blanks for membership and all other information regarding the association may be obtained from the secretary, Dr. Lee Norman, 451 S. Third St., Louisville, Ky.

ABSTRACTS.

Edematous swelling over the mastoid, due to venous obstruction of the emissary veins, must not be confounded with mastoid periostitis; it occurs with septic thrombosis of the lateral sinus, it sometimes extends from the mastoid process to the back of the head and even to the temporal region.—Barr.

The radical mastoid operation should be performed on cases of chronic suppuration with granulations persistently sprouting in the region of the vestibular apparatus, with history of labyrinthine symptoms and demonstrable presence of labyrinthine suppuration or sequestra. There may likewise be a necessity for immediate drainage or resection of the labyrinth and canals.

After the radical operation, patients should be carefully watched for the development of labyrinthine lesions. Their unquestionable presence should be the cause of draining or resecting the vestibular contents in order to forestall cerebral or cerebellar infection.

Consideration for the future hearing power of the patient should always be taken into account. Observations and reports agree that the hearing frequently retrogrades after the radical operation (Randall says that 30 per cent., tho I should think more). The reverse result is often true in the cure of suppuration by the simple mastoid operation, when conditions are feasible for its employment.—Wm. C. Braislin, *L. I. M. J.*

Common Drinking Cups in New York City. The board of health, at its meeting on March 21, 1911, adopted the following additional section to the Sanitary Code, to take effect October 1st:

Section 189. The use of a common drinking cup or receptacle for drinking water in any public place or in any public institution, hotel, theatre, factory, public hall or public school or in any railroad station or ferry house in the City of New York, or the furnishing of such common drinking cup or receptacle for use in any such place is hereby prohibited.

Commissioner Lederle pointed out that the public drinking cup is now regarded as a carrier of certain infectious diseases, the chief among them being diphtheria, scarlet fever, tonsilitis, colds, influenza, and perhaps, occasionally, tuberculosis, as well as syphilis.

Bacteriological examinations of the moisture, or saliva, adherent to the edges of public drinking cups have been made, and the results fully demonstrated the danger of transmission of disease in this manner.

Experiments by the department of health have shown that certain stock fixtures can be arranged by any competent plumber so as to comply with the requirements of the new ordinance.

Picric Acid as an Antiseptic. Experiments comparing a saturated aqueous solution of picric acid (1.2 per cent.) and a 1 per cent. solution of phenol on virulent cultures of *B. pyocyaneus* and *staphylococcus pyrogenes aureus* showed the former agent to destroy bacterial life in one-half minute,—one-fiftieth the time required for the phenol solution.

Ehrensried prefers the saturated aqueous solution of picric acid to any other antiseptic surgical dressing in the treatment of superficial wounds and lesions in which the rete Malpighii of the skin is not completely destroyed—particularly in first and second degree burns. In superficial burns of the hand or foot, the part may be first immersed in the solution for some minutes and a gauze dressing wet with the solution then applied, covered with sheet wadding and bandaged. To avoid staining the fingers the wet gauze may be handled with forceps or the hands protected with rubber gloves or petrolatum.

Ordinarily prompt scrubbing of the hands in soap and water, with or without a preceding soak in alcohol or ammonia water, will readily remove all but the faintest traces of yellow discoloration. If the skin is dirty it should be gently washed clean with soap and water and then rinsed off with sterile water or a weak antiseptic solution. Blebs may be opened aseptically and their contents expressed. One dressing usually suffices in these cases, unless the lesion is extensive. The dressing may be removed after three or four days and the wound will be found healed into a flat, pliant scar. If the gauze adheres it should be moistened with picric acid to avoid pulling away the scab, which may be softened with boric ointment and removed, or allowed to remain until it comes off (unless there is a suspicion that pus is imprisoned beneath).

If a small area of third degree burn is well cleaned up at the start and dressed aseptically, it will granulate without pus formation and dermatize rapidly. The smooth, nonsecreting surface it produces also serves as an ideal base for the reception of Reverdin or Thiersch grafts. Extensive third degree burns, however, should not be treated with picric acid.

Superficial lacerated and incised wounds and abrasions, if not too extensive, heal under one or two picric acid dressings in four to six days. Septic blebs, such as frequently occur on the hands, in paronychia, from pinpricks, following burns and scalds which have not been attended to, and on the feet from chafing and bruising, also respond readily. If the tops are trimmed off, the pus wiped away with a cresol soap solution and dried, one application of picric acid solution will usually suffice to form a new and substantial horny layer over the denuded epithelium.

In comparison with other commonly used dressings for lesions such as those mentioned, picric acid solution stands out in relief as *the only agent actually encouraging epidermatization*. Over any clean denuded surface it forms a protective, aseptic scab by coagulation of the secret-

ed serum, which seals up ruptured lymph-spaces, protects exposed nerve endings, and splints the wound in such fashion that epithelial proliferation may proceed rapidly beneath. If properly used, it is non-toxic. [How would it do in the radical mastoid operation?—J. L. M.]

Pain, which has been noted with the stronger alcoholic solutions, is rarely present when the watery solution is used, tho sometimes over a third degree burn there is a mild smarting at first. This is followed by permanent analgesia.—A. Ehrenfried (*J. A. M. A.*, Feb. 11, 1911).

Tuberculosis, Laryngeal. Systematic examination of larynx in cases of pulmonary tuberculosis advised in order to detect laryngeal trouble early. Treatment of general condition important. Local treatment in febrile or complicated cases and cases with active lung disease should be conservative. Functional rest of larynx, antisepsis of nose, mouth and pharynx, insufflations of powders containing orthoform or morphine, instillations of oily preparations, *e. g.*, orthoform and menthol, of each, 2.5 to 5 gm. ($37\frac{1}{2}$ to 75 grains), in oil of sweet almonds and olive oil, of each, 50 gm. ($1\frac{1}{2}$ ounces). Cocain solutions before meals, and injection of alcohol into superior laryngeal nerve, also available. In afebrile cases cauterization, curettage, or excision of diseased tissues may be tried. Tuberculin to be used only with extreme caution.—Schröder, *Abst. in Mo. Cycl.*

Study the general arterial tension before operating for cataract or glaucoma.

Painless Insertion of Hypodermic Needle. If the skin of the arm, etc., be carefully inspected, especially after lightly brushing it with the palm of the hand, a minutely mottled pink and white coloration will be noted. The nerve supply of the body is everywhere closely related to the blood vessels, even to capillary distribution; hence the white blotches are poorest in nerve tissue and therefore least susceptible to pain. If these white areas be the points of choice and the needle be applied perpendicularly to the surface of the skin little or no pain will be experienced.—*J. A. M. A.*

The palpebral fissure, in paralysis of the superior or inferior rectus due to a tenotomy is wider than normal, since with the postoperative retraction of the tendon its palpebral band also retracts and pulls the lid back. But in paralysis of these muscles due to any other cause the palpebral band is drawn upon less than usual, because the muscle to which it is attached is flaccid, and hence the palpebral fissure is narrower than normal.

Hardness of hearing for speech may be the result of defective cerebral conditions, which may be improved by education.—*Hudson-Makuen.*

BOOK REVIEWS.

THE REFRACTIVE AND MOTOR MECHANISM OF THE EYE. By WILLIAM NORWOOD SOUTER, M. D., Associate Ophthalmologist, Episcopal Eye, Ear and Throat Hospital, Washington, D. C. 353 pages with 148 illustrations. Cloth, 8vo., \$2.00. The Keystone Publishing Co., Philadelphia. 1910.

One of the best books on this subject that we have yet reviewed—except that many if not most of the small figures and letters of the illustrations are troublesomely indistinct. The arrangement is excellent and the writer's style is particularly lucid and easy. While mathematical formulæ are abundant they are not too much so; the general principles may be grasped in most instances without following them out.

All praise to Dr. Souter for doing what we have been urging for fifteen years—using the term *astigmia* in place of the improper word astigmatism. Easily, naturally, the correct word is used thruout the book; "*Astigmia* of the eye (*As*), usually called astigmatism" is the only time our author uses the word astigmatism except when quoting it.

Our author seems to be ignorant of Dr. Georges Martin's article in *L'Annales d'Oculistique*, December, 1895, wherein the latter calls attention to Dr. Whewell's error and suggests *Astigmia* with reasons why this word is the best. "Attention was first called," writes Dr. Souter, "to the incorrectness of the word astigmatism by Dixon who, in an article on Vision in Holmes' System of Surgery (1881)," suggested astigmism. "Astigmia, the word which I have adopted, has a more agreeable sound," continues Dr. Souter, "and it has also the advantage that it has to some extent come into use." The reviewer has been strenuous for the substitution of astigmia since 1896; Dr. Green argued for it until he abandoned the—what evidently seemed hopeless—task; the late Dr. Oliver for years used it; and five years ago Copeland and Ibershoff* found no necessity for mentioning astigmatism anywhere between the covers of their concise handbook—the first book, we believe (certainly in the English language), to make this substitution.

THE PRINCIPLES AND PRACTICE OF MODERN OTOTOLOGY. By JOHN F. BARNHILL, M. D., Professor of Otology, Laryngology and Rhinology, Indiana University School of Medicine; and ERNEST DE W. WALES, B. S., M. D., Clinical Professor of Otology, Laryngology

*Refraction, Including Muscle Imbalance and the Adjustment of Glasses. Boericke & Tafel. 1906.

and Rhinology, Indiana University School of Medicine. *Second Edition Thoroly Revised*. Octavo of 596 pages, with 305 original illustrations, many in colors. Philadelphia and London: W. B. Saunders Company. 1911. Cloth, \$5.50; half morocco, \$7.00, net.

This handsome volume with its particularly clear, beautiful illustrations is a high testimonial to the publishers. Bringing the 1907 edition up to date the chapter on the functional examination of the ear has been rewritten and gives the uniform tests accepted by the Budapest Otological Congress in 1909; Heath's radical mastoid operation is described; operative injury of the facial nerve is considered more extensively; and several paragraphs are added on labyrinth suppuration.

To students and general practitioners not familiar with the first edition we commend the tabular features: Bruehl-Politzer, vascular and nervous supply of the ear; differential diagnosis of acute tubotympanic catarrh, acute catarrhal otitis media, and acute suppurative otitis media; and between meningitis, sinus thrombosis and brain abscess.

PLAIN TALKS ON MATERIA MEDICA with Comparisons. By WILLARD IDE PIERCE, M. D. 792 pages. 8vo. Cloth, \$5.00; postage, 25 cents. Philadelphia: Boericke & Tafel. 1911.

A valuable, most readable book, for which the homœopathic profession, particularly its students, are indebted to Dr. Pierce.

The "comparisons" amount to a well arranged repertory in which symptoms are given—not merely the names of drugs; "only the remedies having the symptoms more or less prominent are included." The comparisons, which cover the first 209 pages, are very practicable for the office table. Numerous references, an index and the choice and arrangement of type facilitate one's study and will doubtless realize, to a greater or less extent, the author's aim "of inducing students to get the repertory habit."

The materia medica part is well adapted to be put into the hands of members of the dominant school who would be discouraged instead of interested by the usual accumulation of symptoms presented by our materia medica. It may be said that Dr. Pierce has given us introductions to the remedies.

We are surprised and disappointed that nothing is said under Hypericum about its value after surgical operations; those surgeons who use this drug in such circumstances testify to their satisfaction with it.

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EDITORIAL.

THIS EARLY ISSUE.

AT the cost of having to print the discussions later (which of course will be assembled properly in the volume of Transactions) we take pride and pleasure in presenting before the close of the Narragansett Pier meeting the presidential address and some of the papers which will have just been presented.

This has been accomplished only by having copies in our hands a month in advance. The response to our appeal is very gratifying, and our thanks are hereby tendered to those who made this journalistic feat possible; our sense of obligation is the same to those whose papers appear herewith and to those for whose papers there is not space.

The reception accorded to this effort will enter largely into the determination as to its repetition another year.

A VEST-POCKET PERIMETER.

About 1901 or 1902 the late Dr. Warren U. Reynolds presented to the writer an instrument evidently made by himself and which we think was original with him.

One trial will convince any one of its value, for use away from the office; in fact it is practically as good even in the office as any but a registering perimeter or one with colored lights for test objects.

It consists of a spring pocket tape measure enclosed in a black cardboard box with an opening two centimeters square in one side behind which may be slid cards (or papers) of any color, and which may be reduced by a black diagram with an opening of one centimeter square or less. The openings could of course be made round if preferred.

At the edge of the emergent slit for the tape is fastened a piece of twine a yard long reaching to a (curved) wire hair pin whose ends, separated three-quarters of an inch, are bent at right angles and twisted each around the other limb just at its angle. Another piece of twine of the same length connects the hair pin with the free end of the tape.

The patient holds the hair pin (square end) against the orbital margin below the eye to be examined while the doctor holds the end of the tape to his observing eye and keeps both pieces of twine taut while taking the fields. It is easy to get the meridians desired.

The blank side of the tape is marked in chords showing the respective angles subtended. The following table is calculated for the metric system with radius 33 centimeters, which is much handier than a yard or a meter.

R. = 330 millimeters.

Chord of 1° =	5.74 mm.	Chord of 24° =	137.2 mm.
2° =	11.5 mm.	25° =	142.8 mm.
3° =	17.2 mm.	26° =	148.5 mm.
4° =	23. mm.	27° =	154. mm.
5° =	28.7 mm.	28° =	159.6 mm.
6° =	34.5 mm.	29° =	165.26 mm.
7° =	40.2 mm.	30° =	170.8 mm.
8° =	46. mm.	31° =	176.3 mm.
9° =	51.8 mm.	32° =	182. mm.
10° =	57.5 mm.	33° =	187.44 mm.
11° =	63.2 mm.	34° =	193. mm.
12° =	69. mm.	35° =	198.5 mm.
13° =	74.76 mm.	36° =	204. mm.
14° =	80.4 mm.	37° =	209.4 mm.
15° =	86. mm.	38° =	214.9 mm.
16° =	91.86 mm.	39° =	220.3 mm.
17° =	97.5 mm.	40° =	225.7 mm.
18° =	103.2 mm.	41° =	231.1 mm.
19° =	109. mm.	42° =	236.5 mm.
20° =	114.5 mm.	43° =	242. mm.
21° =	120.2 mm.	44° =	247.23 mm.
22° =	126. mm.	45° =	252.3 mm.
23° =	131.6 mm.	46° =	257.86 mm.

Chord of $47^\circ = 263.$	mm.
$48^\circ = 268.42$	mm.
$49^\circ = 273.7$	mm.
$50^\circ = 279.$	mm.
$51^\circ = 284.$	mm.
$52^\circ = 289.3$	mm.
$53^\circ = 294.45$	mm.
$54^\circ = 299.6$	mm.
$55^\circ = 304.7$	mm.
$56^\circ = 309.87$	mm.
$57^\circ = 315.$	mm.
$58^\circ = 320.$	mm.
$59^\circ = 325.$	mm.
$60^\circ = 330.$	mm.
$61^\circ = 335.$	mm.
$62^\circ = 340.$	mm.
$63^\circ = 344.85$	mm.
$64^\circ = 349.73$	mm.
$65^\circ = 354.6$	mm.
$66^\circ = 359.43$	mm.
$67^\circ = 364.25$	mm.
$68^\circ = 369.$	mm.

Chord of $69^\circ = 373.8$	mm.
$70^\circ = 378.5$	mm.
$71^\circ = 383.26$	mm.
$72^\circ = 388.$	mm.
$73^\circ = 392.5$	mm.
$74^\circ = 397.$	mm.
$75^\circ = 401.8$	mm.
$76^\circ = 406.3$	mm.
$77^\circ = 410.85$	mm.
$78^\circ = 415.3$	mm.
$79^\circ = 419.8$	mm.
$80^\circ = 424.25$	mm.
$81^\circ = 428.6$	mm.
$82^\circ = 433.$	mm.
$83^\circ = 437.3$	mm.
$84^\circ = 441.6$	mm.
$85^\circ = 445.8$	mm.
$86^\circ = 450.$	mm.
$87^\circ = 454.3$	mm.
$88^\circ = 458.5$	mm.
$89^\circ = 462.5$	mm.
$90^\circ = 466.6$	mm.

PRESIDENTIAL ADDRESS.

Fellow Members:

The honor of an election to the highest office in this society is in itself sufficient to demand some words of grateful appreciation.

That I do deeply appreciate this honor I ask you to believe. But far more even than the compliment of election do I appreciate the hearty and unfailing support you have given me in everything pertaining to the duties of the office. It has never before been my experience to receive such uniform expressions of cordiality and willingness to help, and I beg that you will individually accept my sincere thanks.

In the preparation for our meeting we are especially indebted to Doctor Muncy, the chairman of our local committee, who has arranged for our headquarters and provided the apparatus for our special demonstrations. To the Boston members under the chairmanship of Ex-President Wells our thanks are due for the most attractive feature of our entire meeting, the chance to visit their splendid institution and see their staff at work. Not the least of the attractions at the hospital is to be a luncheon which, as I am privately informed, will consist entirely of baked beans of the only real Boston brand.

If, as now seems certain, the 1911 meeting proves to be an unusually good one, it will be due chiefly to your very wise choice of a secretary. Without the capable and constant help of Doctor Myers the arranging of this excellent program would have been impossible. To understand this you must know something as to how the program was prepared. It has been the custom in former years to send a circular letter to each member asking for a paper upon any subject he might select. Our executive committee decided to try another plan this year, and an appeal was made by an open letter in the JOURNAL outlining the symposium plan and asking for help. This appeal met with no response. The subsequent circularizing of the members would have consumed too much time and perhaps have been equally futile, when we would have been entirely without a program.

In this situation the president and secretary took up the work of preparing a program upon the symposium plan, asking help from various members personally. The response was most generous in every case and the result is before you. The subjects presented, while

not as varied as we have wished, are certainly all worthy of your attention. Each one is in charge of an expert and will present the latest and most authoritative word upon the subject.

Our program is arranged to give you the full benefit of the Institute meeting as well as the attractions of this delightful resort, and we beg your co-operation in our efforts to carry it out on schedule time.

The time consuming problems of policy, etc., that so often upset our program are this year, happily, few. The wisdom and good work of previous administrations have left us in a tranquil and thriving state. Our relations to the Institute are most happy and the mutual helpfulness of the two bodies is a joy to all of us who have their interest so much at heart.

The question of our official journal seems to have been very nearly solved by the plan adopted last year. Without anticipating the committee's report that will later be presented, it would seem wise either to continue the present plan or to modify it by a still closer affiliation.

The JOURNAL is invaluable to us and its hearty co-operation is an important factor in our success. The promptness with which our Transactions were issued this year should be especially noted.

In the absence of immediate problems pressing for solution the introduction of some more general questions would seem to be timely. It has long been the desire of many of our members that our society should assume a somewhat larger function. There is no criticism of its work in its present sphere, for probably no other organization of its kind has so happily combined social good fellowship with high class professional work; it is this increasingly high character of our society which leads to the belief that it can properly broaden its scope.

In this connection two questions have occurred to me as among those which we might with propriety consider.

First is the question of increasing our requirements for membership. This is not suggested with the thought of barring any one from our society but to add to the significance and value of membership when obtained. If such membership were recognized as evidence of a certain proficiency or standing, obtained by definite work, I believe it would be more attractive than at present.

In soliciting new members it is more effective to say, "Why don't you try for a membership, it would be a good thing for you," than to say "You ought to join our society, it needs your help."

The plan of requiring an entrance thesis might be considered. We need especially members who are productive. We should provide a stimulus for productive work and give a larger recognition to it. The thesis plan would help to do this and it would in many ways increase the stability of our organization.

The consideration of an entrance thesis leads naturally to the second topic I have to suggest, and that is the question of our attitude toward medical education in general and particularly the training of the specialist.

An organization of trained men of ripe experience so highly representative as ours is clearly qualified to speak upon this subject and there is much need that it should do so.

We hear much in these days of the incompetency of medical men. In England the subject has attained the distinction of a theme for literary and dramatic treatment. In the language of vaudeville, they have "Got up a lecture about it." Mr. Bernard Shaw in his "Doctor's Dilemma" has strained even his powers of invective to prove that physicians are not only lacking in skill but in practically all the virtues of common humanity. He pictures us as not only fostering and prolonging disease for pecuniary gain, but reveling in the contemplation of suffering for the mere joy of it.

Discerning people recognize this as only the capering of a literary mountebank to hold public attention, but among certain woman's club philosophers it is liable to be discussed with solemnity.

Mr. Shaw's opinion need not worry us, but we should recognize what may be called its symptomatic value. It is his business to perceive various transient phases of public interest and exploit them at the profitable moment. He observes that medical practice is now the object of much critical scrutiny and he knows that a sensational book upon the subject is bound to be a "best seller." Indeed I shall be surprised if my modest effort today does not somewhat increase the sale of the gentleman's book. But even this result can be forgiven if my words also have the effect of focusing your attention upon the subject. There is need for improvement, not in the spirit of our profession but in its standard of efficiency. If this is true of the general profession it is particularly true of those who pose as experts.

Fashions in specialties, like hobble skirts and breakfast foods, come and go without any known cause.

During the past decade the eye, ear, nose and throat business has

drawn the crowd in medicine. And like other crowds it has gone blindly blundering in the direction of the big noise without any careful choice of the ground over which it traveled. The result is chaos within the profession and upon the public something less than wholesale mutilation. This statement sounds Shavian, but before you condemn it tell me how many times you have seen poor refraction, faulty muscle work, bungled mastoids and sinuses, perforated septums, untreated syphilis and mutilated tonsils. I don't know the situation in New England but when I have personally been called upon to re-operate over twelve hundred cases of tonsil and adenoid disease there is something rotten in the state of Illinois. Not to overburden the commonwealth that already carries Lorimer I hasten to say that not all of them were from our own state; some were not even indigenous to America.

Our first concern is, what is the reason for this state of things? Not viciousness, as Mr. Shaw might think, for most of the bungling is done by men who have honestly tried to do good work. In America, at least, we cannot afford to give our patients any less than our best effort.

One reason is the entire absence of any recognized standard of training or skill. There is not even an authoritative guide by which the special student may intelligently map out the course he is to pursue. It would be a public benefaction for a society like this to outline and recommend various courses of adequate preparation for the practice of this speciality. It would be welcomed not only by the student but by those who are compelled to advise students. Most of us are frequently asked for advice in these matters and we need some standard of uniformity.

Opinions will vary as to minor details but upon one general proposition we probably all agree, namely, that longer time and more systematic graded courses are needed for proper training in our specialty. If you concede this point you are betrayed into the admission of two others which, however iconoclastic, are corollary to it. First, the time honored period of general practice—preferably in the country—is no longer a necessary forerunner to a specialty. Good ophthalmologists can be made without spending ten years practicing obstetrics and vaccinating children in the “district school.”

Second, and still more shocking, we are compelled to oppose the further extension of time requirements for admission to the general

medical course. There is a natural limit to human life and if we demand more years of preparation subsequent to the medical degree we must concede some margin as to the time required for obtaining it. Indeed we perforce become the most active opponents of the preliminary education fad. We represent the art of medicine in its greatest complexity, requiring like other arts prolonged practice with its peculiar instruments, and we rightly resent that our students be required to give unnecessary time to the instruments of other unrelated specialties.

We more than all others should insist upon the fifth clinical year in medicine rather than upon an increase of entrance requirements. Our students more than any others need the added practical training and do not need more general theoretical work.

As I have elsewhere advocated,* we should begin by asking our licensing boards to give official credit for hospital experience. Let a certificate of one year's interne service in a first class hospital, obtained after competitive examination, be accepted in lieu of the examination for license to practice. The nature of the examination could be prescribed by the board and a temporary license issued admitting to hospital practice. This could be done with very few readjustments, and it would do more to raise the standard of true efficiency than any other single modification of the present plan.

A number of desirable effects would result almost immediately. It would tend to standardize the work of hospitals and like institutions, making their management to some extent a matter for inspection and comparison. The number of internships for which credit could be given would depend, of course, upon the capacity of the institution and the scope of its service. The grade of service rendered by internes would unquestionably be improved, as certificates would be given only for faithful and efficient work. Hospital positions would be more attractive to the graduate of small means since he would feel that they had an immediately appreciable value.

Another effect of almost equal value would be that upon post-graduate schools of every sort. It would necessarily bring them somewhat under the supervision of state boards and would greatly improve and to some extent standardize their teaching. It would be easy to outline a course of practical work that, given by any properly equipped

**North American Journal of Homoeopathy*, January, 1911.

school, would receive the same credit as a year of hospital service. In this way the special student could complete his medical course while in some measure preparing for his particular line of work. The plan would be heartily welcomed by all really efficient postgraduate schools. When this elective plan had been for a time in successful operation it would be easy to take the next step and make the extra year compulsory.

It is high time for our present vague and misty ideas to crystallize upon some such plan as this. It is time for our teaching bodies to present the matter squarely to our licensing boards; when we do so in clear and vigorous manner there is little doubt of its adoption.

The adoption of this plan would in a measure correct another serious defect in our present system, or lack of system, regarding special work. Upon this point I wish to express merely a personal opinion with due modesty, for it will sound like sacrilege to many whose observation is wider than my own. I believe at present we are suffering from too much study abroad. I do not, of course, mean that there is or can be too much properly directed study, but I mean rather too much ill advised or ill timed study abroad. I fully appreciate the unequalled opportunities for advanced work and extensive observation offered by the great medical centers of Europe. The older we grow the more we realize how much the experienced specialist can learn from the great European teachers. But we also realize how little of practical worth the tyro learns from months spent in the great centers without proper preparatory training. Much of the bungling in ordinary practice is done by men who have had foreign courses of study that all of us might envy. Let us advise our student then to get a ground work at home and if means are limited to wait a while for the foreign travel.

No special education can be considered complete without the benefit of foreign study, but the value of such study is multiplied by a few years of practical experience. The student would best master first the commoner things and become proficient in the ordinary work of the specialty. It is silly to cross the ocean to learn ophthalmoscopy and the principles of refraction or the treatment of conditions that make up the bulk of our practice, and in the earlier years proficiency in these things is worth more than anything else. If a patient's septum is mutilated it is small comfort to know that his doctor was a shark on tumors of the pituitary body.

Here is where we can patronize home industries with honesty to all concerned. The fundamentals come first; these can be learned in New York, Philadelphia, Boston and Chicago as well as anywhere on earth. Indeed we of the homœopathic school should be proud of the fact that the best graded course in our specialty to be found in America is that of our own New York Ophthalmic Hospital; we can give no better advice to any student than to take the course offered by this excellent school and follow it by foreign study if time and means will allow.

In conclusion, therefore, I would submit the following proposition for your consideration:

First, that this society adopt an educational membership requirement, preferably upon the thesis plan.

Second, that it endorse and promote the idea of a fifth clinical year in the medical course with credit for same where obtainable from licensing boards.

Third, that it take up the question of preparation for the specialty with a view to establishing more uniform standards.

BURTON HASELTINE.

ENUCLEATION AND ITS SUBSTITUTES.

A. E. IBERSHOFF, M. D.,

Cleveland, O.

ATTEMPTS at cosmetic compensation for the blemish resulting from enucleation are as old as the operation itself. The mere insertion of a prothesis after removal of the eyeball has always been so unsatisfactory that substitute measures were soon attempted. In quick succession followed amputation of the anterior division of the bulk, exenteration, exenteration with the insertion of a glass ball later known as Mules' operation, opticociliary neurectomy, then simple enucleation with muscular anastomosis. Simple enucleation obviously has no substitute in cases of malignant neoplasms, which fact in itself bespeaks the permanency of this operation. There are however other and perhaps equally potent reasons for its retention, notably its simplicity, brevity and ready performance, factors which under specific circumstances, such as the lack of surgical facilities, limited training of the operator or the physical state of the patient cannot be disregarded. Then, too, it cannot be gainsaid that substitute procedures are by no means free from objectionable features and undesirable complications, as experience has many times demonstrated. It will be my purpose to review in brief the pros and cons of the several methods in the hope of arriving at some conclusion as to the best method of obtaining a prominent movable stump.

The cosmetic advantage of the shrunken capsule as a support for the prothesis is relatively slight. But by far the greater objection to the operation of exenteration lies in the very apparent difficulty of removing every vestige of the uveal tract. In fact the reports offered at the meeting of the Ophthalmological Society of Heidelberg in 1908 tended to show that sympathetic ophthalmia is to be reckoned with despite the absolute removal of every uveal remnant. The same objection applies with equal force to Mules' operation. This method has an additional disadvantage in the danger of the subsequent extrusion of the implanted glass or gold ball, a sequel which can occur after the lapse of many years. In view of these undesirable eventualities this operation has been entirely discarded by the German and Vienna clinics. But

few clinical data are obtainable regarding Mueller's operation, beyond those of the promulgator, yet it is theoretically open to the same criticism as the above.

In view of these clinical facts ophthalmologists have directed their endeavors to filling the capsule of Tenon after removal of the eyeball in the hope of constructing a prominent and freely movable stump, for the support of the artificial eye. Hertel, in his experiments on animals, attempted the implantation of paraffin balls and injections of paraffin. Schmidt suggested the insertion into the capsule of calcined bone, and Elschmig for some time practiced and advocated the implantation of elder pith balls. Neither of these methods struck a responsive cord, and the subsequent reports by Waldstein of the results of Elschmig's method showed a surprisingly large percentage of failures. The reason for the unsatisfactory results attending the several implantation methods enumerated must be looked for in the nature of the implanted substances; for the extrusion of an implanted body is due to an inflammatory process resulting from either chemical irritation or mechanical pressure. Obviously therefore it is of prime importance that the implanted substance shall be chemically inactive and shall exert little or no pressure upon the adjacent structures or tissues.

If it be true that the success of any implantation method is largely a question of tissue tolerance it can be readily seen that heteroplastic procedures are the least hopeful, the natural tendency being toward the extrusion of any foreign body, be it glass, metal, asbestos, elder pith, catgut or what not. Even the implantation of rabbit's eyes as performed by Wickerkiewicz and Legrange, altho resulting in tissue union, was followed by pronounced shrinkage and absorption, while Rohmer in discussing Lagrange's paper reported complete absorption in every case. Autoplastic operations, on the other hand, offer much greater chances of success, inasmuch as they eliminate the factor of tissue intolerance. Implantation of a mass of subcutaneous fat was first devised by Barrequer and subsequently adopted by other Spanish-American surgeons, notably Lopez, Velez and Uribe Troncoso, each of whom has contributed to the literature on this subject. Owing to the very limited exploitation the subject received because of the inaccessibility of Spanish-American journals, the operation remained unknown to the general profession until Bartels introduced it in Germany. In 1908 he reported his experiments on dogs and the successful implantation in two of his patients. The operation was subsequently attempted

at the Vienna clinic of Prof. Schnabel by Dr. Hans Lauber, who recently reported his results in thirty-seven cases. Four of these were failures. One was a case of traumatic iridocyclitis in which the tissues were so friable that the sutures cut thru, exposing the implanted fat with resulting necrosis and necessitating the removal of the mass. The second was a case of microphthalmos in which the implanted mass was large enough to cause pressure and necrosis. The other cases were unsuccessful for unknown reasons. The remaining thirty-three cases gave excellent results.

With this encouraging percentage of successes to his credit Dr. Lauber voices his complete satisfaction with this procedure and announces his intention to attempt the implantation of fat into the scleral sac following exenteration after the method of Velez and Lopez and furthermore to essay the reconstruction of shrunken stumps in cases where simple enucleation had long previously been performed. The two last named procedures are as yet largely speculative. I shall therefore dismiss them with mere mention, confining myself to the technique employed in the implantation of fat immediately following enucleation of the eyeball. It is briefly as follows:

A circumcorneal conjunctival incision is made and the conjunctiva undermined in all directions. The internal rectus is then picked up with a strabismus hook and a catgut suture size "00" is passed thru the tendon on the distal side, after which the tendon is severed on the proximal side and the suture reflected out of the way. Each rectus is dealt with in like manner. Tenon's capsule is then entered and the eyeball freed of all attachments except the oblique muscles. The optic nerve is then cut well back from the globe and the eyeball rolled out of the socket, after which the obliques are severed together with any remaining adhesions and the resulting hemorrhage controlled by pressing gauze pledgets into the wound.

In a previously prepared area on the abdomen, or, if the patient be emaciated, in the region of the nates, a cutaneous incision is made about two inches long and a mass of fat about the size of a walnut carefully excised under aseptic precautions and immediately transferred to the orbital wound. Adipose tissue is rather an "elusive" tissue and as difficult to confine as a bloated bowel after an abdominal operation. The inserted mass should be of such size as to protrude slightly above the capsular rim. It is, of course, possible to implant too much, in which case the pressure resulting from its confinement in the capsule

will result in sloughing. Furthermore, there will be danger of pouting, teat-like protrusions between the sutures inserted and in patients of advanced years the operator will be annoyed by the tearing out of his sutures, especially those attached to the muscles, in which case the formation of a crucial musculature will be defeated and the resulting mobility of the stump diminished.

The fatty tissue having been inserted, the muscle sutures are carefully tied, uniting the four recti over the same. Tenon's capsule is then sutured with fine carbolized catgut, the stitches being placed near together to prevent pouting of the encapsulated mass. Should any particles protrude they must be carefully trimmed off. The conjunctiva is then sutured with black silk and the usual dressing applied without pressure. Cleansing the parts daily with bichloride and flooding the conjunctival sac with boric acid, half saturate solution, constitutes the after treatment. The silk sutures may be removed on the fifth or sixth day and a shell eye fitted about two weeks later.

In a communication to the *Cleveland Medical and Surgical Reporter* and another to the *Ophthalmic Record* a year ago, I set forth the results of the first operation of this nature performed in America. The results obtained on that occasion considering the decidedly unfavorable conditions were to me most gratifying. Altho the eyeball was but a degenerated remnant of an unsuccessful cataract extraction, and altho the patient was a poorly nourished individual in his 79th year, so emaciated that I was compelled to look to the buttocks as my only source of available fat, he made an uneventful recovery, and nine months later had a healthy, prominent and freely movable stump which, from the cosmetic standpoint, left little to be desired. Subsequent attempts under more favorable circumstances have given me correspondingly better results, a fact owing perhaps as much to more careful technique in the proper end to end anastomosis of the recti muscles. That the operation is adaptable even to cases of traumatic iridocyclitis following rupture of the eyeball and prolapse of the vitreous was proved in my third case, in which great swelling, chemosis and very friable tissues were numbered among the unfavorable complications.

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ETIOLOGY OF STRABISMUS.

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LINN EMERSON¹ is one of those who believe that a defect in the fusion faculty, with an error of refraction, is the prime cause of concomitant squint; in a careful observation of some 500 cases he has never seen a case of squint (other than parietic) in which this faculty was not deficient or absent. He agrees with Duane² that the fusion faculty is the mental faculty by which fusion is effected, and that this faculty presumably acts thru a cerebral center the location of which has not been determined. Savage³ considers the fusion center a group of centers situated on either side of the median line beneath the aqueduct of Silvius and in the anterior part of the floor of the fourth ventricle. Emerson holds that analogy points to a fusion center; Maddox hesitates about their number but says that five conjugate innervations have long been recognized. Savage goes further (*loc. cit.*), considering that the conjugate center innervates equally its two muscles, but when there is imbalance the fusion faculty thru the corresponding basal center sends additional innervation to the weaker one. The conjugate centers are located in the cortex probably close together in the anterior part of the motor area.

The fusion faculty, writes Emerson, should be considered a developmental faculty because it develops so rapidly under fusion training after correction of causative errors and, in some cases, deteriorates after cessation of proper treatment.

"The structural defect," he continues, "may be the cause of the lack of development of the fusion faculty, but the deficiency of the fusion sense is the cause of the squint. A clear understanding of this point would reconcile all the conflicting theories of the cause of squint."

Suffa⁴ accounts for convergent strabismus by *the tendency* of the interni to converge and their *frequent excessive susceptibility* to stimulation in certain individuals. In what individuals?

Aubineau, of Brest,⁵ after a careful study of 52 convergent and 93 divergent squinters (7.9 per cent. of ocular affections in the schools and about 4.5 per cent. of his hospital and private cases), considers

strabismus an attribute of neuropathic families and a veritable stigma (?) of degeneration ("tare degeneratrice"). He does not believe squint to be the result of a single cause, and warns against concluding that when only a refractive error is found it exists or acts alone. The etiologic factors which he encountered he classifies, in order of frequency: 1. Errors of refraction; 2. ocular lesions, strabismic heredity and nervous affections. He concludes that a nervous defect is a preponderating factor in the personal and hereditary antecedents of his cases, and that it is of greater etiologic importance for convergent than for divergent strabismus. Heredity, in addition to transmission of refractive errors, may also cause strabismus "by a bad cerebral disposition" to binocular vision.

The causes of paralytic squint are (1) structural, (2) insertional and (3) innervational.

(1) Structural or orbital paralysis is due to some abnormality of the muscle itself—congenital defect, solution of continuity, inflammation of the muscle or its surroundings, atrophy.

(2) Muscle and nerve are normal but the insertion is improper from congenital misplacement, accident or operation.

(3) (a) Congenital deficiency of the nerve or its central connections; (b) solution of continuity; (c) anemia or hyperemia, due to general disturbance of the cerebral circulation or to pressure upon the vessels supplying the nerve or its nucleus; (d) atrophy of the nerve or its nucleus, due to pressure of exudates, inflammatory swellings, callus, hemorrhages, aneurismal atheromatous or thrombotic vessels, or neoplasms; (e) softening or degeneration of the nerve or its nucleus.

The center for the initiation of convergence movements (voluntary) is probably² in the frontal lobe—according to two experiments by Sherrington, near the angle of the precentral fissure. The posterior cortical centers (reflex) are said by Bechterew² to be in the occipital lobe behind the junction of the Sylvian with the first temporal fissure and in the angular gyrus. The subcortical centers, according to Bechterew, are, first, one in the third nerve nucleus, probably connected with the frontal center; and, second, one in the corpora quadrigemina, probably connected with the posterior cortical centers. According to Bernheimer⁶ the first of these subcortical centers would comprise the partial nuclei for the internal rectus on either side, the commissural fibers connecting the right and left partial nuclei, and the fibers running from each partial nucleus to the internus of the same

side (the crossed fibers running to the internus of the other side subserving not convergence but latero-adduction).

Divergence, in all probability, is a combination of passive and active elements; Sherrington found that inhibition of convergence could be produced by cortical stimulation. The center for initiation of divergence (voluntary) lies in the frontal lobe in front of the middle of the precentral fissure. The posterior (reflex) center is in the angular gyrus. The subcortical center is in the abducens nuclei.

Lesions affecting the connections of the nuclei with the cortex and the cortex itself generally cause paralysis of the co-ordinated movements of the eye (convergence, divergence or the parallel movements) rather than paralysis of the individual ocular muscles.

Hysteria, neurasthenia and the traumatic neuroses very rarely indeed cause paralysis of the individual muscles, but produce rather paralysis or spasm of convergence or of the associated parallel movements.

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NONOPERATIVE TREATMENT OF STRABISMUS.

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THE writer does not pretend to bring forward a treatment which will obviate the necessity for operations in many cases but simply to suggest methods which will make more certain permanent binocular vision. An important factor in the uncertainty of the result of tenotomy rests in the fact that the fusion center is undeveloped and the patient is unable to make any effort to control the visual lines. Where the patient's consciousness is not equally stimulated by the images of the two eyes there cannot be good visual team work and that means nerve drain just as truly as does marked muscular error.

One case operated upon for a high degree of hyperphoria had much relief but was much disturbed by a lateral diplopia caused by 2° of exophoria. This was overcome by development of the fusion function.

REPORT OF A CASE OF SEQUESTRATION OF THE PARS PETROSA.

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THIS case is of especial interest both as showing nature's costly method of repair and her resistance to inflammation of vital structures.

J. H., aged 16, gave history of suppuration of left ear for about ten years. Acute mastoid symptoms and paralysis of the facial nerve had existed for three weeks, also partial paralysis of the left lower extremity.

Radical operation was performed disclosing necrosis which involved the glenoid, middle and posterior cerebral fossæ. The facial canal was found open and the nerve necrotic from its point of entrance into the tympanum to well down in the posterior wall. During the after treatment, which lasted about nine months, the boy had three attacks of meningitis, in one of which he was comatose for three days. After the third attack thrombosis of the cavernous sinus resulted in atrophy of both optic nerves.

CEREBRAL LESIONS AS A CAUSE OF EYE SYMPTOMS.

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IT is not unusual to find that symptoms ascribed by the patient to the eye are in reality due to disease of other organs. Not a few cases of headache and dim vision are due to cerebral lesions, and under such circumstances the physician referring the case is apt to ask where and what is the cause. While most of these cases are and should be referred to the neurologist, I can never allow such a case to go before I have made an effort to satisfy myself as to cause and location. Three cases of cerebral lesions have been selected for your consideration this evening.

CASE I.—E. F. K., January, 1909. Male, 52 years; widower. Calls for relief of constant, dull and very annoying occipital headache which has been present for one month. Has worn glasses for reading for ten years. Specific history denied. He is a short, stout, easily perspiring individual, works at the desk and takes little or no exercise. Is a hearty eater. Has had muscular rheumatism and appendicitis in the past two years.

Urine acid, specific gravity 1023. No albumin nor sugar. Arterial pressure registered 200 mm. by the Riva Rocci sphygmomanometer.

V. o. d. 15/20 and no improvement, o. s. 15/70; with — 0.50 \ominus — 2.75 c. axis 180° , = 15/40.

Field of vision for right eye is contracted. Both discs pale, vessels of good size but disc outlines are hazy. 1 degree of esophoria in the distance. Skiascopy: o. d. + 0.50 c. ax. 90° ; o. s. + 0.50 c. ax. 80° \ominus — 3. ax. 180° .

Despite the anisometropia and the compound myopic astigmatism of the left eye, it seemed to me that this was a case of high tension with all the changes in the blood vessels that would imply in a man of his age. He had been wearing plus 3. o. u. for near work. Plus 0.50 c. ax. 90° \ominus + 2.50 s. for the right eye, and — 3. ax. 180° \ominus + 2.50 s. for near work were prescribed. The glasses were satisfactory but the headaches continued.

Two months later, as he arrived at the breakfast table he found his

speech muddled to such an extent that his family could not understand what he was saying. Arms and legs were normal. After a week or two his speech improved, but it was evident to anyone who had known him that he did not speak as usual. It seemed as if he had some small object in his mouth.

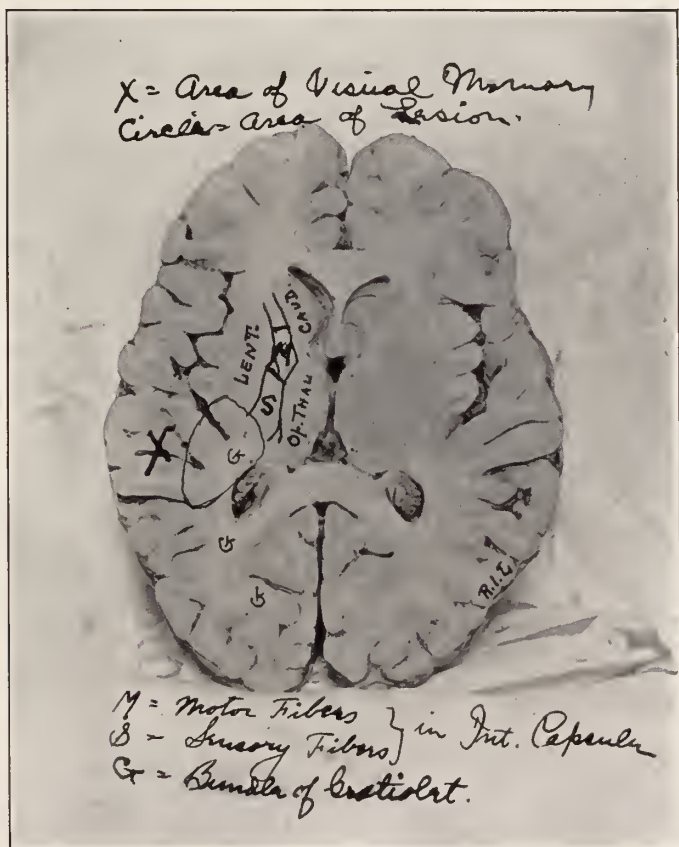
Four or five days after the attack he found he could not write with accustomed facility. This was a great surprise to him because he had been and was able to use his hands as usual in other ways. He was very apt to put a tail on the a or o or leave the up stroke off the d. He was conscious that this was not correct but the hand would not obey. Thus *may* might become *nog* or *nag*.

Tongue comes out straight; right side of face not quite so mobile as the left. Knee jerk minus. Could detect no fault in sensation. He could pick up a pin and put it easily and exactly into a pin hole in card board and could use the right hand perfectly except when he came to write. He has recovered in the meantime and now has occasional fuzzy speech to remind him of his experience.

It seems to me that this was a thrombus which cut off some of the fibers or cells of the speech center and the portion of the brain above the speech center, which is generally credited as being the graphic center in which memory of things seen and heard, thought, etc., are harmonized and impulses sent to the center controlling hand and arm movements. This area is supplied by branches of the sylvian artery which pass upward thru the speech area to the graphic center. If one of these arteries were thrombosed low down, the supply of both areas would be impaired or associating fibers cut.

CASE 2.—Mrs. B., April, 1906, had uremic coma of pregnancy. After the coma had passed, vision was very poor, there was hemianesthesia, hemiplegia and word blindness. There was severe albuminuric retinitis and right homonymous hemiopia. She was unable to give a name to familiar objects or numbers; nor could she recollect the number of her house, etc. The hemianesthesia and hemiplegia cleared up, and one month later there was a marked improvement of the retinitis. The hemiopia remained and still remains. Recollection is somewhat impaired.

January 25, 1909, almost three years later, her vision was o. d. 15/15 minus 4 letters; with + 0.50 c. axis 90°, vision was 15/15. O. s. 15/15 minus 3 letters; with + 0.25 s. \bigcirc + .50 axis 90°, 15/15. Field of vision is characteristic. Discs are beginning to whiten and arteries





somewhat shrivelled. February 5, 1910, V. 15/15 minus 4 letters, no improvement with glass for right eye; for left 15/20 minus 4 letters and no improvement. Atrophy more evident.

This case is very interesting because it brings to mind the fact that there is one place in the brain where sensory tract fibers, motor tract fibers, fibers of special sense for vision and association fibers to the center for visual memory from the visual center are close together. This is near the posterior portion of the internal capsule. The motor fibers are most remote, sensory next, the other two groups are close together. It is easy to assume that the hemianesthesia and hemiplegia were distant effects, accounting for the prompt recovery, while the other two fiber groups being so close together would naturally suffer more damage.

CASE 3.—Mrs. A. A. S., age 53, widow. April 26, 1909, after a fish dinner suffered from nausea, vomiting, diarrhœa and severe pain in the right eye. Next day found difficulty in eating because she would lose food in the right side of the mouth. She has had eczema off and on for years and just prior to this attack had been taking Fowler's solution, gtt. 5, t. i. d.

May 31, 1909, presents the following: Right pupil widely dilated. Right eye in first position, can be turned in and down a little only. Cornea sensitive. No scars of herpetic nature visible. The area of the superior maxillary and ophthalmic divisions of the fifth nerve are insensitive. The area of the inferior maxillary division of the fifth nerve is sensitive. The right anterior half of the tongue, right side of cheek and buccal soft palate insensitive. Ptosis of right eye lid. Tongue comes out straight. Hearing, both ears normal. Sense of smell normal. No sign or history of sinusitis. V., o. d. 15/50 minus one; with + 1.50 \odot + 0.50 c. axis $180^\circ = 15/20$ minus 3. O. s. 15/50; + 2. \odot + 0.50 c. axis $180^\circ = 15/15$. Tension of both eyes normal. Urine negative. Has had four children and no miscarriages. Two children are married and have children; the other two died in infancy of diphtheria. The vessels of the right retina are swollen, left normal. Patient did not know whether the eye (right) bulged at time of attack or not. Months later the history came from a daughter that the eye protruded very markedly during the first days of illness.

January 9, 1910. Pupil of right eye is now pin point. Other symptoms much the same except right disc shows paleness and contracted field more than left. The right side of nose is much less acute for

smell than the left. Less contrast between normal and anesthetic areas than at last visit. She can move the right eye much more, except out and up and combinations of these motions.

The fact that one division of the fifth escaped and that there was no paralysis of motion or sensation in the limbs would seem to rule out the cortex of the brain, the internal capsule and crura. The fact that the fourth nerve on the same side as the fifth, sixth and third and not on the opposite, was affected would, with absence of sensory or motor paralysis of limbs, rule out the medulla because the fourth nerves decussate, that from the right side supplying the left eye and *vice versa*. The centers in the medulla for the third, fourth, fifth and sixth nerves are, taken together, very extensive and it would not seem reasonable to have a destruction of their nuclei in the pons and medulla and midbrain without involvement of motion or sensation in the limbs, the fibers of which are just inferior. We are then brought down to the significant fact that in the groove for the cavernous sinus all of the involved nerves are close to the cavernous sinus; the inferior maxillary of the fifth turning out and down soon parts company with the other two parts of the fifth and is some distance from either. It seems reasonable to say that this is a case of cavernous sinus thrombosis which produced gross lesion of cicatricial and inflammatory nature which crippled the third, fourth, two parts of the fifth and the sixth nerves, and is now slowly affecting the right olfactory and the optic nerves.

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TYPICAL AND ATYPICAL MASTOIDITIS.

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WHEN the word mastoiditis is mentioned it brings to mind a certain picture which, while varying in details in different cases, is in the acute form of the disease fairly constant in its essential features. The history of a preceding acute suppuration of the middle ear followed within a few days or weeks by pain, swelling, redness and pressure, sensitiveness over the mastoid region, a protrusion of the auricle especially noticeable from behind, with or without fever, are the salient features of an acute attack, easily recognized and for which an operation is usually the only remedy.

The atypical case does not present these characteristic symptoms and one may well hesitate in making a positive diagnosis or in urging an immediate operation.

The following is the history of a typical case in which the symptoms were unmistakable and the necessity for operation unquestioned:

Mr. J., age 25, a civil engineer working in the Pennsylvania railroad tunnel under the East river, was attacked with grippe and while hardly convalescent returned to his duties which took him into the compressed air chamber. He quickly developed an acute inflammation of the middle ear accompanied by intense pain. He was referred to me by his physician on the second day of the attack. I found the right drumhead intensely red and bulging. On the following day a free incision of the membrane was followed by a profuse discharge of blood and later of mucopurulent matter. Instead of diminishing, after the opening of the drumhead, pain steadily increased and the mastoid soon became red, swollen and very sensitive to touch. The patient was sent to the hospital and for forty-eight hours hot douches, hot antiphlogistine, and leeches were employed in a vain attempt to control pain and inflammatory process. The mastoid was then opened and found full of pus, the entire process being involved down to the tip. The patient made a prompt and uneventful recovery.

Up to the time of seeing this case I had believed that mastoiditis would not occur in acute suppuration if the case were seen from the

beginning and free drainage established by thoroly opening the drum-head. I no longer cherish that illusion, for this case was seen as early as one could expect to see a referred case. The infection must have been of a very virulent type.

The two cases following, which I have ventured to call atypical, were under treatment in the hospital at the same time which made them more unusual:

Mr. A., age 50, was taken with an acute suppuration of the middle ear for the treatment of which he sought the services of one of our members. After being treated for a short time he was advised that a mastoid operation was necessary to effect a cure. For financial reasons the operation was refused and the patient employed another aurist. Under his care the discharge ceased, the perforation closed and the redness of the drumhead disappeared. Not long after this happy result the patient complained of some pain of an intermittent character in the mastoid region. A third aurist was called in consultation and a diagnosis of neuralgia was made, as nothing in or about the ear pointed to mastoid empyema. The family physician, a homœopathist, was informed by the specialists, who were of the other school, that the case was now in his hands as there was no further trouble with the ear and that internal remedies must be relied on for the relief of the neuralgic condition. The physician, not being able to effect a cure by careful prescribing and finding a slight daily rise of temperature, asked me to examine the patient.

I found in bed a small, slightly built man with a peculiar yellowish tinge to the skin. On account of the pain he had been unable to gain more than a few hours sleep in snatches for many days and was becoming exhausted. Examination of the drumhead of the affected ear showed no perforation nor was there any evidence of congestion. The mastoid was neither swollen nor red in the slightest degree. Only at the tip and on very strong pressure could I elicit the least sensitiveness, and this was exceedingly slight. The sternocleido muscle of the affected side was markedly rigid, but not sensitive to pressure. There was no fluctuation. Because of the rigidity of the muscle which I believed to be due to inflammation beneath it, together with the other symptoms, but more especially because his appearance impressed me as due to sepsis, I advised opening the mastoid, which was done the following day. The cortex was intact. On opening the bone the cavity was found full of pus and granulation tissue. The carious process had ex-

posed the dura and lateral sinus over a considerable area. A perforation on the under surface of the tip permitted the escape of pus into the triangle of the neck, where was found a large cavity which also extended inward to the retropharyngeal region. It was quite a characteristic case of the so-called Bezold type of mastoiditis. From this cavity a large amount of pus and granulation masses was removed; counter opening was made in the neck to facilitate drainage. Another fistula extended backward from the mastoid nearly to the median line of the occiput. At one time we feared there might be caries of the cervical vertebræ.

The treatment of this case was long and tedious. The patient was operated April 12, 1904. His morning temperature on that day was 97.2°. Following the operation his temperature ranged from 98° to 103°, once or twice dropping to 97° and once to 96°, until May 22d. During all this time there was a copious discharge of pus from three openings, one in the mastoid, another in the neck and the third in the occipital region. The cavities were repeatedly curetted and packed. The dressings were changed every second day and the cavities flushed. The discharge of pus showed no signs of diminution. The patient's condition varied from one of great restlessness with high fever and delirium to one of great prostration and profuse sweating when his temperature dropped to 96° and 97°. During the latter attacks camphor 3x proved of great value. He also received strychnia 1/60 grain from one to three times daily, and whiskey at frequent intervals for many days in succession. From day to day it seemed as if he would succumb, for he was a frail man at best and at this time weighed something less than a hundred pounds. From May 22d to June 5th his temperature ranged from 97.6° to 99°, once or twice reaching 100°. There was still a profuse discharge of pus but he was somewhat stronger and we felt more hopeful.

On the morning of June 5th at 8 a. m. his temperature was 99.2°, pulse 104 and respiration 24. At 6:15 p. m. his temperature was 104.6°, pulse 124 and respiration 34. He had erysipelas. This seemed like the last straw. The mastoid wound was still open and the dura and sinus exposed. The disease appeared on the side of the nose toward the operated ear. To prevent the spread of the inflammation to the open wound, pure carbolic acid was applied to the affected area and quickly neutralized with alcohol as the skin became white. While the region of the wound did not become markedly involved, the disease

spread to the other side of the face and thence over the scalp and down to the shoulders.

The attack proved a blessing in disguise, for the suppuration was at once greatly reduced and contrary to our expectations continued to grow less as the erysipelas began to improve. By June 12th his temperature was again normal; on the 13th and 14th it ranged from 95.8° to 97° , jumping to 104° on the 15th and gradually returning to normal on the 18th. From June 22d to 25th the range was from 96.6° to 97.6° . From then on to his discharge from the hospital in the middle of July his temperature was practically normal save for an occasional fall to 97° , which by this time had become such a common temperature in his case that we thought little of it. While the wounds in the neck and the occipital region were healed when he left the hospital, a small amount of discharge continued from the mastoid wound, which was now very small, until December. The man is now in good health except for periodical attacks of neuralgia, from which he has suffered for many years.

The following history was furnished by Dr. M., a relative living with the patient, but not in charge of the case, which was under the care of the family physician:

Dr. O. B., a woman physician, in fair health except that she had long suffered from insomnia.

"On the night of January 1, 1904, a dull pain began in the right ear, lasting off and on for three weeks with greater or less severity. Had profuse night sweats, but had had them occasionally before. Extreme prostration. All remedies and local applications failed to relieve pain. There was nothing in the ear to show any reason for the pain and no mastoid tenderness; on the contrary was better from pressure and kept her hand pressed to the mastoid. The pain left the right ear entirely and went to the left; this happened several times. Pain began at noon and lasted till midnight; later 5 p. m. to 5 a. m. Some days very little pain, others severe. Deafness was noted. Often examined ear when there was no pain whatever and then found canal and upper part of drum membrane intensely congested, but these conditions would entirely disappear during the paroxysm of pain. The air felt as it were being drawn directly into the tympanum, and there was a sensation as if a drop of liquid were running down the inside of the drum membrane. This caused intense itching with desire to scratch,

and scratching caused pain; this symptom lasted many weeks. The next two weeks were almost free from pain except dull pressure from without inward in both mastoids. On abstaining from all food except water and orange juice for one week was entirely free from pain except a dull pressure in mastoids, only on stooping. On February 7th pains suddenly became violent with symptoms of meningitis,—sharp cries, rolling the head from side to side. Temperature 102° . Sleepless. Only half an hour's sleep in the twenty-four for weeks. Morphine made her decidedly worse. Pains relieved by hard pressure and heat. About February 10th pains left the mastoid and went to the occiput and deep in the brain; were boring, crushing and rending in character. Pains frightful and persistent. The extreme severity lasted for several days, followed by periods of exacerbation and amelioration. At this time was seen by an ear specialist. He found slight congestion of Shrapnell's membrane; no bulging; no mastoid tenderness; pain relieved by hard, deep pressure. Did not think there was enough trouble in the ear to account for the violence of the pain. Saw the case only once and wanted to keep it in view, but as the temperature became normal and as he did not consider it a mastoid case the family physician resumed charge of the patient. Another physician saw the case at this time and diagnosed 'rheumatism of the ossicles,' but later said they had agreed that it was tumor of the brain. The diagnosis seemed to have been based mainly on the fact that the patient had had marked insomnia for the past three years. There was no history pointing to brain tumor and no physical examination was made. The occiput began to swell on March 1st. A third physician made a diagnosis of malaria with glandular enlargement of the neck. By this time the swelling had moved from the occiput to the neck, becoming larger and larger, while the pain became less, tho at times severe. A fourth physician now saw the patient and concurred in the diagnosis of malaria, tho later he concluded it was sarcoma. The swelling on the neck interfered with breathing. At times cessation of breathing for a minute and a half at a time. Wakened with a gasp. Seemed only able to breathe by voluntary effort, ceasing to do so on falling into a doze. The first and fourth physicians in consultation agreed that the sarcoma had penetrated the skull and was the cause of the swelling in the neck, and that the condition was an inoperable one. Advised inhalations of chloroform

for the relief of pain, as internal remedies had no effect and morphine aggravated the symptoms. On April 8th Dr. L. was asked to make a blood count and found a marked leucocytosis. He found some fluctuation behind the ear where the tissues had begun to break down. With a hypodermic syringe he withdrew some fluid which proved to contain pus. Started to incise, but finding a deep abscess, decided it was probably a mastoid abscess and advised calling an aurist. Two days later the family physician saw the case again. The swelling was very hard and the fluctuation was not so evident as on the former visit. He still insisted that the condition was an inoperable sarcoma which was breaking down."

On April 13th, three months and a half after the onset of the attack, I was asked to see the patient in consultation, but as the attending physician was taken ill I got the history from the medical relative who had followed the case from the beginning and to whom I am indebted for the above report. The patient seemed in the last stages of exhaustion, having taken little food and having had practically no sleep for a long time. On the right side of the neck there was a very large, hard swelling, with a soft central area where the abscess had begun to "point." The indications for opening the abscess were imperative and as the patient was in such a weakened condition that the long trip to the hospital was not thought advisable, the abscess was freely opened at home and half a pint of pus removed. She slept four hours and a half that night, the first long sleep for weeks. Five days later she was removed to the hospital and the mastoid opened and found extensively diseased. The perforation had occurred at the tip. The drumhead was still intact and showed very slight evidence of congestion. The patient made a good recovery and has since had good health.

40 East 41st Street.

CHRONIC MASTOIDITIS, RADICAL OPERATION. EVACUATION OF A TEMPOROSPHEOIDAL BRAIN ABSCESS AND SEPTIC CEREBRITIS.

G. DEWAYNE HALLETT, M. D.,

New York.

MR. W. E. K., an iron worker, aged 29 years, came under treatment in the clinic of the New York Ophthalmic Hospital in February, 1907, for a chronic purulent otitis of three months' duration.

Examination revealed a small perforation of the membrane, scanty, odorous discharge, and a small polyp, which was removed and local treatment given for some three weeks.

During this time he complained of severe headaches indefinitely located in the frontal region and on the affected side, and he was admitted to the hospital for a radical mastoid operation, in the course of which the dura and sinus were exposed and appeared normal. The labyrinth was not involved.

Following the operation instead of a clearing of symptoms there was some aggravation, together with some disorientation, and on examination the eyes showed blurred edges of each optic disk with slightly dilated pupil on the affected side. The pulse and temperature curve did not aid in diagnosis. Four days later, with further optic neuritis, the skull was trephined just posterior and above the meatus, the dura lifted and presenting no abnormality. Incising the dura, then, a knife was passed into the cerebral substance in three directions, and about two ounces of pus evacuated from temporosphenoidal region. Using a Whiting encephaloscope it was attempted to inspect the abscess cavity without satisfaction, but it served as an aid to passing a double strip of gauze.

Within twenty-four hours there was marked improvement in all his symptoms except the neuritis; the mental dullness entirely passed away, headaches subsided, appetite improved, and he expressed himself as feeling well.

The gauze was reinserted after two days and again once or twice but presently with some hernia cerebri this was not possible. The

hernia continuing it became necessary to repeatedly excise considerable masses of brain tissue.

The mental dullness returned, there was a loss of physical strength, the handgrip was weak, the neuritis extended and, in coma, death came in fourteen days.

Just preceding this there was a marked elevation of pulse and the temperature rose to over 105° .

128 W. 85th Street.

For Furuncle of the External Auditory Canal. Pack the canal with gauze saturated with 2 per cent. ung. hydrarg. oxidi flavi.

Ivy Poisoning. No ointments in the acute stage; bandages tend to spread the poison to adjacent surfaces. A protector, if any, should be a loosely applied dressing of absorbent cotton, kept moist at all times and changed frequently; frequent and copious washings with lukewarm water and an unirritating soap; the inflamed surface is best handled by means of rubber gloves; after washing the parts apply a 2 to 4 per cent. warm solution of potassium permanganate.—*Med. Times.*

Hints for Those Who Wish to Participate in Discussions.

"1. Do not say anything unless you have really something to say.

"2. Say it in as direct and clear a manner and in as few words as you can.

"3. Do not bring your hobby into every discussion.

"If you follow these instructions the audience will bless you."—*Critic and Guide.*

THE ELECTRIC OPHTHALMOSCOPE.*

ELMER JEFFERSON BISSELL, M. D.,

Rochester, N. Y.

THE advantages of the electric ophthalmoscope, with its self contained source of illumination, over the old time ophthalmoscope are not universally appreciated by oculists. Even many possessing the later models use them but little because they have not understood the full possibilities of the instrument. Having used the electric ophthalmoscope since it first appeared on the market, I have considerable experience with the different models as they have appeared. The early type of the instrument was far from satisfactory, and it is not strange that many who experimented with it have not been inclined to buy the improved models, fearing they would have very little advantage if any over the old.

The requisites of a good instrument are first, the easy replacement of the electric bulbs. Most of the early models required a screw driver. A telescoping joint is now found on all instruments; it therefore requires only a moment to put in a new lamp in case one burns out. Second, the electric bulbs should be carefully selected. On the top of most of the bulbs there is a thick portion of glass which is supposed to act as a lens. Often this thickened portion is very imperfect as a lens and therefore gives an unsatisfactory field of illumination. In my last purchase of one dozen bulbs I found only about six that were satisfactory. Third, there should be a focusing adjustment, so that the field of illumination can be changed from an area one inch in diameter to a clean cut, sharply defined line one-half inch long and one-eighth of an inch wide. I consider this one of the prime requisites of a good instrument, as it very much enhances its usefulness. Fourth, the mirror should be so constructed that it can be rotated around the axis of the electric bulb. This makes it possible to so rotate the mirror that the sharply defined streak of light just referred to can be either exactly perpendicular or horizontal, or in fact at any angle. I have found it of greatest advantage to have the streak exactly horizontal. When the

*Written especially for this JOURNAL.

streak is in this position and the sliding, focusing adjustment is changed so as to give a round area of illumination about one inch in diameter, the area of illumination is more even and a sharper picture of the fundus can be secured. The reason for this is that the reflecting mirror is in the best possible position in relation to the little filament in the electric bulb to give the best results. If any one will experiment with his instrument on this point he will find the importance of attention to these little details. Fifth, the size and shape of the sight opening in the reflecting mirror is a matter which should receive attention. I have examined different makes and have found that the evenness of the field of illumination is quite materially influenced by the size, shape and location of the sight hole.

With an instrument possessing these qualities many minute pathological changes can be detected which would otherwise wholly escape observation or be seen very imperfectly with the old style ophthalmoscope. I do not wish to be understood that an oculist can dispense with the regular ophthalmoscope. It has its field of usefulness and cannot be dispensed with, but the electric ophthalmoscope supplements it and increases the oculist's diagnostic ability.

In examining the cornea, lens and vitreous the horizontal streak of light, as above described, should be used in connection with the plus sixteen lens which can quickly be brought into use by swinging the quadrant from its top on the left side to its extreme position on the right. With these adjustments made the various structures from the cornea to the posterior part of the vitreous can be easily and minutely examined, by varying the distance of the ophthalmoscope from four to two inches from the face of the patient. The deeper the structure examined the nearer the instrument should be to the patient's eye. The best illumination of the lens and vitreous can be secured by throwing the streak of light across the lower third of the pupil. This largely obviates any annoying reflected light and will bring out the most minute opacities in the lens and vitreous. I venture the statement that by no other means can very fine dust like opacities be detected in many cases. One can easily prove this statement by changing the illumination to the usual round area of about one inch in diameter, and having once detected very fine opacities in the vitreous by the manner just described, note that it is impossible to see them with the changed illumination. In examining the optic nerve and choroid the usual round field of illumination should be used, and the necessary spherical

correction of the patient's refraction should be made with the lenses in the ophthalmoscope. With the instrument thus adjusted very minute changes can easily be detected, especially those in the oft neglected macula region.

There is also great satisfaction in using the instrument in studying the vessels of the fundus in relation to the variations in blood pressure. In high degrees of myopia I do not think the instrument is as satisfactory as the indirect method with the old ophthalmoscope. In fact it is not well adapted for indirect examinations.

75 S. Fitzhugh Street.

Atrophic Rhinitis E. M. Clinton insufflates, twice a week, or oftener

Rx.	Cerevisine	5
	Ac. citric.	3
	Zinci stearat.	ad 100

M.

Disadvantages of Menthol. Triboulet (*La Clinique*) found that menthol oily solution irritates the mucous membrane, causing redness and irritation followed by dryness and disagreeable stinging in the nose; in children a cough and even laryngeal spasm. His solution had not been stronger than 10 per cent. Twice acute conjunctivitis followed the use of a powder containing a considerable percentage of menthol. One sufferer with annual coryza of hay fever type snuffed for it a powder with a considerable amount of menthol and developed redness and swelling of the skin of the nose and cheeks (no rise of temperature) simulating erysipelas.

SYMPOSIUM.

How young a child have you operated for deflected septum?

Upon what indications would you operate a young child for deflected nasal septum?

What considerations would lead you to defer or decline such operation?

FRANCIS B. KELLOGG, M. D.

Los Angeles, Cal.

I think the youngest child I have operated on for deflected septum was a boy of about 11 years. In this case I did a full submucous resection under cocain, preceding the cocain with an eighth of a grain of morphine by mouth; I never had a patient behave better.

I would operate a young child only in case of extreme obstructive deflection, in which case it would be justifiable in my judgment under general anesthesia. I have however never had occasion to do this.

It is my observation that septal deflection does not become extreme in early childhood. It develops with the subject as a consequence of unequal pressure of the bones of the head.

I do not know of any consideration which would lead me to decline or defer if the operation were necessary.

THOMAS L. SHEARER, M. D.

Baltimore, Md.

In an experience with throat and nose diseases, which covers twenty-five years, I have never had occasion to operate upon a child for deflected septum. The reasons for this are plain; the bones of the face and the nasal cavities at birth are small in proportion to the rest of the skull. When, in the very young, nasal obstruction is present, one usually finds that overgrowth of adenoid tissue is the cause and that, next to that, enlarged tonsils produce difficulty in breathing. Further, as the child becomes older, the nasal chambers, keeping pace with the development of the facial bones, increase in capacity and thus overcome any ordinary septal deflection. When the patient nears puberty there is a strong tendency of the turbinated bodies to congestion and turgescence. This, of course, interferes with nasal respiration. As I do not believe in any mutilating operations in the young—except to save life—and as time and development of the parts often correct an apparent deformity of the nasal septum I am averse to any such operation on any child under, say, 14 years. Naturally, in case of accident which causes severe displacement of the septum, immediate steps to restore the parts to their normal position should be undertaken. An operation on any region of the body can be manufactured if the surgeon has the desire to do so; it means an extra fee. Sir Felix Semon calls this the lust for operation and it is well named.

SOCIETIES.

THE ALUMNI ASSOCIATION

of the New York Homœopathic Medical College and Flower Hospital held a very successful meeting and banquet on Thursday, June 1, 1911. The propagandist work was endorsed and the annual dues doubled—to \$2.00. The following officers were elected:

President—G. Forrest Martin, '90, of Lowell, Mass.

1st Vice-President—E. L. Wyman, '75, Manchester Center, Vt.

2d Vice-President—J. T. White, '92, Salt Lake City, Utah.

3d Vice-President—L. A. L. Day, '90, Chicago, Ill.

Corresponding Secretary—*W. L. Love, '94, Brooklyn, New York.

Recording Secretary—Roy Upham, '01, Brooklyn, New York.

Treasurer—*H. G. Sloat, '01, 145 W. 95th St., New York.

Necrologist—*John L. Moffat, '77, Brooklyn, New York.

Alumnus Trustee—*W. W. Blackman, '77, Brooklyn, New York.

Executive Officer—H. B. Minton, '87, Brooklyn, New York.

Censors—*J. W. Dowling, '86; *H. G. Keith, '94; *Ralph A. Stewart, '00; *E. G. Tuttle, '89; and for a term of three years, J. Wilford Allen, '95, and W. G. Crump, '95.

NEW YORK STATE BOARD OF MEDICAL EXAMINERS.

We are happy to announce that Dr. Henry B. Minton, professor of anatomy, New York Homœopathic Medical College and Flower Hospital, has been appointed to this board for three years (August, 1914) and to the chair of anatomy; the board elected him vice-president, and placed him upon the questions committee. The board consists of:

1913, Glentworth R. Butler, Brooklyn, president, diagnosis.

1913, Lee H. Smith, M. D., Buffalo, pathology.

1913, to be appointed in June, vice W. W. Potter, deceased, obstetrics and gynecology.

1914, H. B. Minton, M. D., Brooklyn, vice-president, anatomy.

1914, F. S. Farnsworth, M. D., Plattsburg, chemistry.

1914, Ralph H. Williams, D. O., Rochester, physiology.

1912, W. H. Park, M. D., New York, hygiene and sanitation.

1912, Aaron B. Miller, M. D., Syracuse, surgery.

1912, Arthur Booth, M. D., Elmira, bacteriology.

Secretary, Maurice J. Lewi, M. D., 1133 Broadway, New York.

*Re-elected.

ABSTRACTS.

Preliminary Capsulotomy—an Improved Method for the Extraction of the Immature Cataractous Lens. HOMER E. SMITH, M. D.

It is to be understood that the operation to be described is applicable to *immature* cataracts occurring *at any age*.

My own preference is for the simple extraction of cataract and where there is a mobile and dilatable pupil, with normal tension, such eyes are operable by the method I adopt in 95 per cent. of the cases. Occasionally where exceptional difficulties are anticipated a preliminary iridectomy is performed and this is much the wiser method if it is to be done at all. It is understood that we are dealing with a lens more or less clear but sufficiently opaque to interfere with comfortable vision, that the tension is normal, that there is no infectious disease of the lids or lacrimal apparatus, and that there is a mobile and dilatable pupil. It is assumed that the proper preparatory treatment has been given and that the technique of asepsis has been rigidly followed.

In working out the details of this operation it was found that the knife-needle was rarely sufficiently sharp clear up to the point, that its shape made it catch in the lens and if great care was not used the lens was apt to be dislocated. To make it more effective for the purpose intended the point was ground off making the blade the shape of a miniature scalpel. The shank was made of equal size thruout so that it should fill accurately the puncture made by the cutting surface.

Previous and immediate to the operation itself the pupil is fully dilated by a 2 per cent. solution of homatropin. The eye is then cocainized, the aseptic details completed and the speculum inserted. If for the right eye the operator stands at the head of the patient. Taking a firm and deep grasp, with the fixation forceps, upon the conjunctiva just below the insertion of the internal rectus muscle, *the knife above described* is thrust thru the cornea about the middle of the superotemporal quadrant and the blade carried down to the lower edge of the dilated pupil, its edge being toward the operator. The handle is then made to describe the arc of a circle away from the surgeon and a cut is made thru the capsule up to the upper limit of the pupil, the blade then slightly withdrawn is carried over to the inner side of the midpupillary space, the same maneuver repeated and a cut made in the capsule at right angles to the first. The blade is then turned into the same plane as its entrance and is withdrawn.

If for the left eye the operator stands on the left side of the patient the fixation is just above the internal rectus and the knife entered in the inferotemporal quadrant, the cut in the capsule then begins at the upper limit of the pupil. The procedure otherwise is the same.

After the capsulotomy the conjunctival sac is flushed with an anti-

septic lotion, the patient given a hypodermic of $\frac{1}{4}$ grain of morphia and put to bed. He is allowed to remain there from four to six hours before the extraction proper is performed. This does not differ from the ordinary method but the corneal section should be ample for most immature cataractous lenses are large. *The period of waiting and the method of the capsulotomy are the two essentials of this operation.* What happens during the waiting period is this. The capsule having been amply divided curls away from the cortex and allows the aqueous to insinuate itself between this and what remains of the enveloping capsule causing a separation between the two. That this is true is seen by the ease with which the later delivery of the lens is always accomplished and its clean, full and smooth outlines when it does come out. Never has there been found a lens that sticks, and the operator after this method will be astonished and gratified to find how gentle only need be the manipulation to cause the lens to extrude.

In the ordinary capsulotomy some of the difficulties come from the instrument itself but more and greater ones from the conditions under which it must be used. The straight capsulotome is kept sharp with difficulty. It cuts only when drawn toward the operator, at right angles to this it simply scratches. As soon as the section is made the iris contracts, the lens comes forward and the anterior chamber is abolished. Into this narrow space must be passed a straight instrument between cornea and lens; it is impossible to do this and reach below the center of the lens without pressing it more or less backward and at this stage the lens, held only by its suspensory ligament, is mobile and easily dislocated. More than this, the operator in his zeal to make an efficient opening in the capsule is apt to rupture this ligament and loss of vitreous ensues. There are no means of knowing that the capsulotomy has been inadequately performed until the lens, when pressure is applied to the globe, refuses to present in the section. In this event either the fixation forceps must be reapplied, a difficult and dangerous thing to do on an opened eye, or the cystotome reintroduced without its help trusting to the patient keeping still. The pupillary space being narrowed by the contraction of the iris leaves insufficient room to work in and it is a difficult matter not to wound the iris or entangle it in the tip of the instrument. If the bent cystotome of Knapp is used then are these difficulties enhanced and not only is there greater difficulty in removing fragments of cortex but a peripheral capsulotomy leaves two thicknesses of lens capsule in the pupillary space and more often is required a secondary operation. Should blood enter the anterior chamber then are the difficulties before mentioned still further increased.

None of these difficulties accompany a preliminary capsulotomy as described in this essay. 1. The knife-needle can be made superlatively sharp and efficiently cuts the capsule in both directions. 2. Only thru the grossest carelessness can the suspensory ligament be ruptured or

the lens dislocated for it is held firmly in place by the vitreous behind and the aqueous in front. 3. Ample space is given thru the dilated pupil and the point of the knife may be fully in view during the division of the capsule and furthermore the operator has the satisfaction of knowing that this is perfectly performed. 4. The iris cannot be wounded or entangled in the instrument and there can be no bleeding to obscure the field of operation. In brief it simplifies and makes certain a step in the operation which is usually fraught with difficulties and dangers.—*N. Y. S. J. of M.*, May, 1911, q. v.

Anesthesia of the Tuberculous Larynx by Alcohol Infiltration of the Superior Laryngeal Nerve. Roth (*Münchener medizinische Wochenschrift*, October 18, 1910) refers to the pioneer work on this subject by Hoffman in 1908. The chief aim was relief of the dysphagia. Sturmman in the following year succeeded in so infiltrating the superior nerves that the glottis remained insensitve for three months. These alcohol infiltrations were without unpleasant consequences such as follow the similar employment of cocain. Hoffman later reported 16 cases in which anesthesia lasted for from 6 to 40 days. Since then there has been no new literature on the subject. The author and colleagues have however been at work on the subject and now report a material of 33 cases. The indication for the infiltration was always dysphagia. All but three of the patients had advanced pulmonary phthisis. The laryngeal lesions exhibited their usual diversity. Besides dysphagia most of the patients suffered from hoarseness or aphonia and lancinating pains. The dysphagia was of some two months' average duration, and a variety of local anesthetics had been used without success. The dysphagia was naturally most pronounced for solid and semisolid food. The idea of the alcohol infiltration was adopted largely from Schlöss' method of treating neuralgia, the technique being similar. The point for injection lay between the hyoid bone and thyroid cartilage where the internal branch of the superior nerve is given off for the sensory innervation of the larynx and trachea. In but one case was this point sensitive. The technique is principally that for aseptic injections in general. The injections were painful, the pains being at the seat of puncture and radiating. About 1 gram was the regular amount of alcohol required, the largest quantity used being 2 grams. In but a single case was the result negative. Anesthesia lasted from one to twenty-one days.—*Med. Record*, Nov. 12, 1910.

Cerevisine in Black Eye and Ocular Therapeutics. Desiccated brewer's yeast was suggested some years ago in the treatment of ophthalmia neonatorum and gonorrheal ophthalmia, and it has been successfully employed in many such cases since then. It is claimed to destroy gonococcic infection of the conjunctiva more certainly than the silver preparations, arrests corneal ulceration, subdues the chemosis

with remarkable rapidity and accomplishes these results without causing severe reaction.

Irrigate the eye and conjunctival folds with a warm solution of boric acid, then apply a mixture of cerevisine and sterilized distilled water of the consistency of cream, which should be applied to the conjunctival folds by an applicator or pipette and renewed every hour in ophthalmia, and every two or three hours in corneal ulcer, unless perforation of the lens is threatened, which indicates more frequent application.

The following is the formula recommended for preparing the cerevisine mixture for the eye:

R. Cerevisine	grs. v.
Aqua5i
Stet—M.	

Let stand for five minutes, then stir, and a smooth mixture results. If stirred immediately after adding the water to the cerevisine, the granules agglutinate, and an unsatisfactory mixture results.

The same mixture may be used as an application for black eye and other ecchymosed conditions. Apply the mixture around the orbits or to the site of the lesion and allow to dry. The tumescence and discoloration rapidly subside under this treatment. In eczema of the eyelids apply the same mixture several times a day. This application also forms an effective prophylactic for the newly born, preferable to the nitrate of silver solution generally employed. It destroys gonorrheal infection of the conjunctivæ as effectively as the silver salt, without causing pain. In such cases it should be freely applied to the conjunctival surface after irrigation with a weak solution of boric acid.—*La Tribune Medicale, N. Y.*

BOOK REVIEWS.

HOW SHALL WE TELL IT TO OUR CHILDREN? By EDGAR V. MOFFAT, M. D., Orange, N. J. Paper, 8 pages, 5 cents a copy; 50 cents a dozen. Boericke & Tafel. 1911.

Fourteen years ago the Chiron Club was so impressed with this paper, which had just been read at its June meeting, that it printed one or more thousand copies for free distribution. Many successive editions were called for from even Europe and Asia, but the expense and trouble of distribution proved such a burden to Dr. Moffat that now it has been placed in the hands of Boericke & Tafel, of New York, Philadelphia, Chicago, Cincinnati, Baltimore and Allegheny, Penn.

Of the literature upon sex education (which is rapidly growing in response to widespread attention to this subject)—none covers the essential points in a more clear and convincing manner.

"We are living," writes Dr. Moffat, "in a transitional age. The materialism of the past century is giving way to the spirituality of the coming one, and it is our privilege as physicians and teachers of these vastly important sexual truths, to wield a wonderful power for good that shall extend as far as these young lives shall reach. Let us then strive to keep the children pure and the marriage pure wherever our influence may be felt." * * *

A TREATISE ON DISEASES OF THE EYE. By JOHN E. WEEKS, M. D., Professor of Ophthalmology in the University and Bellevue Hospital Medical College (Medical Department of New York University); Surgeon to the New York Eye and Ear Infirmary; Member of the American Ophthalmological Society; Honorary Member of the Royal Hungarian Medical Society of Budapest, etc. In one octavo volume of 944 pages, with 528 illustrations and 25 full page plates. Cloth, \$6.00, net. Lea & Febiger, Publishers, Philadelphia and New York. 1910.

A clearly and concisely written treatise in which the author has been assisted,—in contribution on certain topics—by such authorities as Drs. W. Norwood Souter, Alexander Duane, George S. Dixon, Robert G. Reese, L. Lewis Ziegler, A. Maitland Ramsey (Glasgow), R. Linda (Vienna), Halberstädler and Prowazek.

The thoro manner in which the sundry divisions are dealt with make it a treatise most useful for the specialist, possibly to the practitioner, but a little too advanced for the general medical student—twelve pages on the anatomy of the retina alone,—twenty-eight pages on iritis beside four on the anatomy of the iris. Under infectious conjunctivitis twenty odd bacilli or cocci are considered as causation thereof, and finally in the chapter on toxic amblyopia the effects of forty-seven drugs are studied.

In conjunctivitis folliculosa we note that he does not agree with the ordinarily accredited presumptive diagnostic symptoms, that the location of the inflamed follicles on the conjunctiva of the upper lid would thus rather indicate the case to be one of trachoma than simple follicular origin; as he states that the follicles in the simple form are located by preference on the upper lid.

Well written chapters on the principles of optics are included, and the paragraphs on treatment are more than ordinarily explicit.

In the material production of this volume Messrs. Lea & Febiger have equalled the author in giving us a book useful to the profession generally but especially the man studying to be a specialist. P.

A PRACTICAL MEDICAL DICTIONARY of Words used in Medicine with their Derivation and Pronunciation, including Dental, Veterinary, Chemical, Botanical, Electrical, Life Insurance and Other Special Terms; Anatomical Tables of the Titles in General Use, and those Sanctioned by the Basle Anatomical Convention; Pharmaceutical Preparations, official in the U. S. and British Pharmacopœias and contained in the National Formulary; Chemical and Therapeutic Information as to Mineral Sponges of America and Europe, and Comprehensive Lists of Synonyms. By THOMAS LATHROP STEDMAN, A. M., M. D., Editor of *Twentieth Century Practice of Medicine*, Editor of *The Medical Record*. Illustrated. Thumb Indexed, \$5.00; plain, \$4.50. New York: William Wood & Company. MDCCCCXI.

Examination indicates that the classes of words under subdivisions on title are so well reprinted that we copy such list in full.

An idea of its scope may be gleaned from the following: "Ip"so-lateral (L. ipse, same + latus, side). On the same side, * * * "Ir. chemical symbol of iridium." "Ir. abbreviation for internal resistance," etc. "Lith'ium, gen. lith'ii (G. lithos, a stone)," etc. Under this seventeen combinations are mentioned with their chemical composition and uses. For "iris" both its anatomical and botanic definitions are given, and under the anatomic division, twenty-three subdivisions are enumerated with synonyms, *e. g.*, eversion, paralysis, etc. And fifty-two distinct words derived from the Greek root "iris" are included. Of "Boyd-Dew Method" of resuscitation, two illustrations are given. While the up-to-datedness of the book is evidenced by its consideration of Ehrlich-Hata's 606.

The impressions are made with a particularly sharp clear cut type on a thin semi-calendered paper, which supplemented by a thumb index and flexible cover make the book's contents not only easily read and easily found, but the book itself is comparatively small and light weight.

The good qualities embraced in this volume commend it most strongly to our profession, the literature of which becomes antiquated in so few years. P.

TRUTHS, Talks with a boy concerning himself; and CONFIDENCES, Talks with a young girl concerning herself. By E. B. LOWRY, M. D. Publisher, Forbes & Co., Chicago. 1911. Price (each), 50 cents.

Fortunately for the rising and coming generations the importance of teaching the adolescent child correct ideas on sexology is being appreciated by those having the care of the youth—the calm, logical thinkers among the parents, doctors and educators. The practical results are books like the two above mentioned.

These teach human reproduction in the most ethical and chaste manner imaginable—it being approached in the early chapters by considering the life and reproduction of plants and chickens or birds which all children understand at twelve years of age; and passes gradually to that of the highest creation of nature, the human organism.

The nomenclature is perfectly simple and the style pleasing. The great advantage of these books is that the information most useful for the boy is in one book, while that for the girl in the other.

At the immature age when these primers are applicable it is not desirable that one sex should know as fully about the functions of the organs of the opposite sex as of themselves.

Physicians, on account of their knowledge, are the most responsible class of the community in this matter, they need to educate the parent or the child.

Every physician needs one or more of these books.

The type is clear and binding linen, so popular at the present time.

P.

LITORA ALIENA. By MEDICUS PERIGRINUS. "Peregrinum ut viseret orbem." Publisher, W. M. Leonard, Boston. 1911.

A collection of ten letters written by a physician while making a tour of Europe for publication in the *Boston Medical and Surgical Journal*.

He gives in a very easy flowing style the impressions received by the writer from the principal cities visited by the traveler, from the viewpoint of a medicus.

The perusal of one of these epistles is a very pleasant way to pass a few spare moments—instructive as well as entertaining.

P.

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EDITORIAL.

OUR BOOK REVIEWS.

ATTENTION is called to the fact that pains are taken, in noticing books sent us for review, to give our readers practical points that should more than repay the time required by the formation of the habit of reading these reviews. The old idea is antiquated that criticism means fault finding; we endeavor to weigh the book under consideration fairly to author, publisher and reader with the prime object of posting the latter. The routine praise of the binding, etc., which used to be a part of almost all book notices, may be taken forgranted in the case of the publishers who send us books regularly.

It may be seen that our book reviews are not confined to our specialties. This is because our readers are intelligent men and women of influence in their respective communities, general practitioners as well as specialists and exclusivists, who, we feel, will be interested in such points as we thus present to them and because such books not infrequently may prove of value in our special lines as well as to us as citizens. Beck's Bismuth Paste, for instance, may indeed prove of more practical help to some of us than any other book of the year. Of the twenty-eight books noticed in 1910, thirteen it might seem were out of place on our pages; but were they? Volumes V. and VI. of Bryant & Buck's American Practice of Surgery presented those chapters covering the head. The works on Diseases of Children, on the Digestive System, on Mental and on Constitutional Diseases, the Nosodes, and on The Psychic Treatment of Nervous Disorders overlap the consideration of affections of the special organs; these, with Habit Formation, The Paris Medical Schools, Medical Directories,

Veterinary Medicine, Sexual Ills, and The Four Epochs of Life have undoubtedly had more or less interest for the general practitioners and surgeons among our readers if not for our exclusivists.

CORRECTIONS.

On page 261 of our last issue it was erroneously stated that Dr. Minton, our new representative upon the N. Y. State Board of Medical Examiners, is professor of anatomy at the New York Homœopathic Medical College and Flower Hospital.

This professorship has been ably filled for the last three years by Dr. Ralph I. Lloyd, of Brooklyn.

Dr. Minton is Professor of Medicine and the head of the Department of Practice.

On page 244 we published two very brief papers by Dr. George A. Shepard which—we are glad to find—were but abstracts. The papers proper have since come to hand; one appears on page 279, this issue, and the other may be expected at some time later.

SYMPOSIUM—ENUCLEATION AND ITS SUBSTITUTES.

(Concluded.)

THE USE OF A CATGUT BALL AS A SUBSTITUTE FOR SIMPLE ENUCLEATION.

BURTON HASELTINE, M. D.,

Chicago, Ill.

FROM the number of reported cases where sympathetic trouble has followed evisceration and from two cases I have seen, I am convinced that complete enucleation is the only safe procedure where an eyeball is to be sacrificed.

Cosmetic effect should always have consideration where this in no way interferes with absolute safety.

The insertion of some kind of globe into Tenon's capsule seems to be a perfectly safe measure and when this is successful the cosmetic result is usually good. I have employed the glass ball, the gold ball and the paraffin ball, with occasional success, but often with either immediate or subsequent failure. These are all open to the objection of leaving a foreign body in the orbit and it is only in a small proportion of cases that it is permanently retained. The paraffin seems to me the best of the three as it is partially absorbed and is better borne by the tissues.

The idea of using an absorbable material to be replaced by connective tissue naturally suggests itself, but with the exception of fat implantation, no one else, as far as I know, has attempted it. The difficulty of finding a suitable material is apparent, while the possible danger of leaving such a large mass to be absorbed is, of course, uncertain.

I first tried to avoid this danger by the insertion of a reticulated hollow sphere of catgut. The idea was to furnish a support over which the capsule and muscles could be sewn, while, at the same time, forming a nidus for a blood clot that would later be replaced by connective tissue.

The formation of such a reticulated hollow catgut sphere is a more

difficult matter than is at first apparent. The plan that I finally adopted was to wind the number one or number two catgut suture material around a central ball of hard paraffin securing the ends by stitching and then melt out the paraffin ball by heat. The gut employed was the new preparation of Johnson & Johnson made from the fresh intestine of the sheep, probably the most perfectly sterile gut procurable. It was, of course, handled with the strictest aseptic technique.

The hollow catgut sphere was thus secured but with the defect that a considerable amount of paraffin remained in the meshes of the reticulated shell. This would prevent the flow of blood into the shell and would seriously interfere with absorption.

This was removed by immersing the sphere for twenty-four hours in xylol, which completely dissolves the paraffin. As the xylol is an undesirable substance to bury in delicate tissues it in turn was dissolved by a twenty-four hour immersion in sulphuric ether after which the spheres were placed in alcohol for preservation. When used they were simply rinsed in sterile water and inserted like any other ball.

I employed this method first upon a young man in 1904. The sphere was retained without trouble, but collapsed and was absorbed too rapidly; although there is good motion of the stump there was too much shrinking to furnish perfect support for prosthesis.

A small remnant of the catgut was picked out ten days after the operation, but was so softened as to have no effect upon the result.

I later tried the same plan with a young lady, using a heavier sphere with a smaller open space inside. The result was better than in the first case, but there was still too much shrinking of the stump.

I then decided that my blood clot was of no real value and decided to risk a solid ball of catgut. This obviates the necessity for employing paraffin in any way, greatly simplifying the preparation of the ball. I have done this in two cases and am convinced that it is a perfectly feasible procedure. The catgut is borne better than any other foreign body, and with perfect technique it should offer no greater danger of infection. Personally, I believe that even if infection did occur it need not be a very serious matter. It would be quite simple to remove the offending material and establish perfect drainage.

When I again have occasion to try the procedure I shall use a slightly larger ball than I have before and, as too rapid absorption is not desirable, it is possible I shall try a ball made partly of chromicized gut.

The technique of the operation itself is I believe of very great importance. The four recti muscles must be isolated, stripped free of the capsule and secured with separate catgut sutures. They are then severed and held out of the way during the delivery of the globe.

After the sphere is inserted the superior and inferior recti are brought together first and sutured. The lateral recti are then united over the others. It is best to treat the pairs separately and both should be drawn carefully over the center of the mass. The reason for placing the lateral ones outside is that this gives them a slightly better purchase and lateral motion is more important than vertical. They should be firmly sutured as it is upon the muscles rather than upon the capsule that we must depend to withstand tension.

The next step is the suturing of the capsule which should be done with strong catgut in such a manner that the line of suture is vertical and the conjunctiva should be kept well out of the way. Lastly, the conjunctiva is closed with a horizontal line of suture, using interrupted stitches of silk or horse hair. A rather firm pressure bandage should be applied for the first forty-eight hours, and the usual after dressings given.

122 S. Michigan Ave.

DISCUSSION.

CLINTON C. COLLIER: To me there seems to be a great diversity of opinion among the profession as to the best method of obtaining a good or, in fact, a perfect stump for an artificial eye. As has been shown, many methods and various schemes have been tried, some with success, some partial success and more failures, from some cause or other. Some of our best men contend that results are just as good by the simple method and I saw a case the other day which seemed to prove it. This eye was enucleated by a family physician, with no attempt at preserving a good stump, but it was as near perfect as any I have ever seen, and when I inserted a reform eye the movement was equally as good as the other eye. Of course, this is an exception, and in most cases a sunken cavity and staring eye is the result. What we are striving for is perfection and so far we have found it not. When Dr. Haseltine first suggested his scheme of a catgut ball it appealed to me as the thing, and I was positive it would give the best results of any method so far tried; I figured that the tissue would tolerate the catgut and absorb it. I had the pleasure of assisting him and watching results in the first operation, till the patient had left the hospital. I was much pleased to see that only a small portion of the ball was thrown out, most of it absorbed, and that the result was a

fairly good stump. I also had the pleasure of assisting him in the second case, and was more enthusiastic, after seeing this case; so at the first opportunity I tried it on one of my cases. I wound my ball out of sterile nonchromicized gut No. 2 just before the operation, and after stopping hemorrhage inserted it, drawing first my muscles and capsule together and then stitching the sclera with horse hair. In this case it was mostly all absorbed, but on the fourteenth day the small portion remaining was thrown out. Nevertheless I had a good stump with good motion and after six weeks I inserted the eye; the movement was fine, but I now find some six months later, as Dr. Haseltine has stated, the stump has shrunk and I must give him a larger eye. On June 5th I again, assisted by Dr. Haseltine, did the same operation, only the eye was very small and degenerated and we were not pleased with the conditions as the muscles were atrophied and the capsule thin; the ball in this case was not absorbed but was thrown out on the eleventh day. I see though where I could improve on my work and think I could get better results. Since reading over Dr. Ibershoff's paper I am as hopeful of his operation as I was of the catgut ball. I had heard of the fat implantation but paid little attention to it, considering it about the same as the modified blood clot in mastoid surgery. Now that I have gone over the details carefully I am interested; to me it appears the most logical, and the fat is less a foreign body than any of the other substances yet devised. Up to the present time I considered catgut best; if it could all be absorbed we would have no foreign substance at all, only the increase of connective tissue. I would like to ask Dr. Ibershoff: if the implantation of other tissue substances is attended by shrinkage and absorption why not the fat? What change takes place? Has he ever had an infection, or the fat thrown out or any part of it? How much better cosmetic results does he consider he gets in the fat implantation than by the old method?

G. W. MACKENZIE: Lauber has been experimenting in this line for some time past; I am not very favorably inclined toward the catgut or the fat implantation because atrophy is apt to follow in the muscular and other tissues; fat is nothing but connective tissue loaded with oil. In time the fat will be absorbed or lost and shrinkage will occur. Also the gold or glass balls put into the orbit, if they fill it at all well, will exert a certain amount of pressure; pressure as we all know causes atrophy and will in time diminish the peri-orbital tissues. It does not seem to me that any of them will be found to be absolutely perfect.

DR. HASELTINE: Even if we admit that, the eye would not be any worse off than if neglected, would it?

DR. MACKENZIE: True; I approve of experimenting and trying various substitutes, but I only wanted to call attention to the fact that we have not found the ideal substitute as yet.

G. A. SUFFA: Is the catgut absorbed in all cases? I understood

the essayist to say that part was absorbed, but that part was extruded.

DR. HASELTINE: Some absorbed it entirely, others not entirely, small portions came out.

DR. SUFFA: How long have you had cases that you followed up?

DR. HASELTINE: One case was operated upon a number of years ago; I saw him a year ago and there was still a movable stump.

DR. SUFFA: I have been doing evisceration and inserting the Mules glass ball. Dr. Bissell's method is now followed in placing the sutures. Instead of the fine split sutures recommended by Dr. Bissell, I use No. 6 or 8 silk sutures (usually 5), including sclera and conjunctiva, using extreme care to coapt the scleral edges accurately. I have one case performed in this way that has retained the glass ball some fifteen years. The following case may be of interest:

A child operated upon in this way last year had staphylococcic infection about the time the stitches should have been removed at the end of the second week. Reaction was intense with marked swelling, chemosis and pain. All the sutures came away. When the central suture came away the Mules ball was exposed for one-eighth inch, but in a few days granulations covered its full area and the ball was retained, to my surprise and gratification.

D. W. WELLS: Ever since Dr. Bissell presented this subject to us in Cleveland, reporting a number of cases without a single failure, I have followed his technique exactly and have had good success generally. I have lost two balls; one was an Italian laborer, in which case the ball was extruded a month or two after its insertion. It seems that he was in a fight and received a blow in the eye—not breaking the glass ball but forcing it out of the socket. The other case was a child upon whom I was demonstrating the operation before some other physicians. I was unable to entirely stop the hemorrhage from the central artery. I put the ball in under protest and it came out in a few days. With the exception of these two cases I have been entirely successful. I cannot say just exactly how many times I have performed the operation; I have not the number with me. In doing it, exact coaptation of the edges of the sclera is important.

FRANK O. NAGLE: The idea of implanting fat in the orbit to take the place of a lost eye was first devised by a Spaniard, Barraquer, in 1901; others took it up and at the Heidelberg Congress in 1908 Bartels gave the results of ten operations upon dogs. The work done by Lauber and Benedict consisted of thirty-seven cases of fat implantation; of that number fifteen were presented after the first year with excellent mobility and very little shrinkage of the fat. In three cases suppuration occurred and of course the subsequent healing of these cases was delayed for weeks. In one case meningitis set up. The operation has frequently been done by Sweet, of Philadelphia, but among the first cases one case of suppuration occurred. Lauber places the cause of suppuration in too much fat being implanted; indeed, in his second series of cases he is implanting less fat than in his first

series. The histology of the process is not known: whether the blood vessels penetrate gradually into the fat mass and nourish it or whether there is simply absorption from the surface, or how the fat mass obtains nutrition, is not known—it is a difficult question. Lauber says that he hesitates to perform this fat implantation upon a private patient.

DR. HASELTINE: This trifling matter has elicited more discussion than I anticipated. I am glad that the other sides of the question were discussed as well as the catgut side. There is no question about Mules operation or the glass ball closed within the sclera being the ideal operation, if we shut our eyes to the possible dangers of infection and of irritation with the development of sympathetic trouble. There have been so many cases of sympathetic ophthalmia after evisceration, possibly through a fragment of the choroid being left in or from other reasons, that some other method safer and just as good has been an object of research. If evisceration was perfectly safe there would be no question about its merits. I found portions of the uveal tract in one case of failure of this operation.

I am fully persuaded that the catgut is fully as good as any substitute spoken of here; Dr. Mackenzie's argument about pressure atrophy is on my side; your hard foreign body will continue to make pressure as long as it is worn while the absorbable material like catgut will not continue to do so because a portion, if not all, of it is absorbed and the pressure is relieved.

Even if you do not get a movable stump you have had a tissue and a way to insert the muscles in the catgut for a time, so that you have muscles attached in a way that you could not have them attached in simple enucleation.

DR. WELLS: I rise to a point of order; the title of the symposium is Enucleation and Its Substitutes; hence the Boston members have been in order in discussing other substitutes than catgut.

DR. HASELTINE: I accept the correction.

EDGAR J. GEORGE: I cannot see why there should be any objection to the insertion of a glass ball in Tenon's capsule, as there is no possibility of it disintegrating by absorption. At our Chicago meeting last year I exhibited a patient whose eye I had enucleated fourteen years before and implanted a glass globe in Tenon's capsule. It remains as perfect today as when implanted regardless of the fact that she has received several accidental and severe blows upon it. The result is perfect and I do not think we could find a better or safer material. I have operated several cases but have lost trace of them, therefore can report the success only of the one which is still under my observation. I had one case, a baby, in which the ball came out soon after the operation, probably due to the catgut stitches thru the muscle tendons absorbing too soon. With the sutures I bring the muscles together and interlock them over the glass ball so that they will heal together and not slip from their position.

A CASE OF FAT IMPLANTATION.*

A. E. IBERSHOFF, M. D.,

Cleveland, O.

SINCE my initial report over a year ago I have performed the operation of fat implantation a number of times under both favorable and unfavorable conditions. The uniformly happy results are the principal reason for my enthusiasm over this method.



*Written especially for this JOURNAL.

The accompanying illustration shows the result in a recent case. Recurring attacks of severe inflammation in an eye rendered sightless by the accidental contact with an acid made it necessary to remove the left eyeball. In view of the fact that a good cosmetic result was a matter of prime importance to the patient I undertook the implantation of a ball of subcutaneous fat taken from the abdominal wall after the manner of the cases previously reported. The case was a more favorable one than any I have had before or since, and the result was correspondingly satisfactory. Excursions of the artificial eye fitted over the stump compare favorably with those of a prosthesis fitted over a shrunken eyeball. As the illustration shows, the socket is well filled and the glass eye lies in the same plane with its normal fellow. The palpebral aperture is the same in each eye and while the lid control has been excellent from the beginning the palpebral fold is slightly wider, a fault which has since rectified itself.

822 Rose Building.

A number of ophthalmic surgeons have now adopted **blood pressure testing** as a first assistant in the study of many diseases of the eye resulting from disease of the cardiovascular renal system. In surgery of the eye, the general arterial tension is now carefully studied and controlled before operating for such conditions as glaucoma and cataract.

The mouth may be a source of ocular infection, in all probability the cause of a large number of inflammations of the iris and ciliary bodies not attributable to syphilis or gonorrhœa.

Hay Fever.—Treatment. Section of nasal nerve at its emergence from anterior ethmoidal foramen performed in three severe cases, with complete relief.—Blos.

Experiments have shown that the **bacillus pyocyaneus** is at times pathogenic for the conjunctiva, and that, secondly, the cornea becomes involved.

SYMPOSIUM—STRABISMUS. (*Concluded.*)

NONOPERATIVE TREATMENT OF STRABISMUS AND
EDUCATION OF THE FUSION FACULTY.

GEORGE A. SHEPARD, M. D.,

New York.

THE writer has no intention of advising the substitution of non-surgical for surgical treatment of strabismus, but rather that a more careful study be made of the physiology and psychology of binocular single vision and that this knowledge be used to supplement surgical procedure. Most operators are willing to admit that the results of tenotomy and advancement are uncertain and often, in the long run, unsatisfactory. Is it not a fact that a tenotomy performed upon the ocular muscles, when the fusion power is so weak that the patient can make no sustained effort to obtain binocular single vision, is much like setting a fractured bone and applying no splint? Further than this, when the ocular center suppresses the image of one eye, does not the brain rebel against taking up the new work entailed by the correction of the muscular defect? This rebellion can be easily demonstrated by covering the fixing eye and noting the symptoms of distress which quickly ensue when the patient is called upon to use the suppressed image for purposes of thoughtful vision. Rational treatment then demands that the ocular centers be prepared to do good team work before any efforts be made to correct the muscular error. Altho this preparation is often tedious, yet the final results will repay effort.

For many years after Donders gave to the world his masterly treatment on Refraction and Accommodation, oculists, tho accepting the theory of the interdependence of convergence and accommodation, seemed to ignore the truths there laid down. Tenotomy of the internal rectus was deemed to be legitimate even if excessive accommodative effort had not been fully relieved by proper lenses. Happily, today this form of malpractice is rarely encountered, nevertheless there still exists a woeful ignorance as to the psychic ensemble which makes binocular vision a perfectly normal process, calling for no mental effort.

If the muscles of accommodation and convergence do not work together in perfect harmony there can be no true conservation of nerve energy in the visual act. Treatment of ocular, muscular, imbalance should have for its *primary* object the establishment of useful binocular vision, secondly, cosmetic perfection. The laity, in its ignorance, usually thinks only of the cosmetic effect but the physician must take the broader view.

The writer does not in any sense intend to belittle the importance to humanity of the technical skill and judgment of the muscle operator but rather to place before this society some thoughts as to the value of proper preparation before operation be undertaken, in order that faulty physical and nervous habits may be eliminated. As muscular faults often exist from infancy, the cerebral and cerebellar development is necessarily conformed somewhat to these irregularities. Also, as in hyperphoria, the head may be tilted to one side so constantly as to cause actual deformity in the cervical vertebræ or cartilages. An operation on the muscles may be surgically perfect but if the above factors are ignored the result in a large proportion of cases will be unsatisfactory. I cite, not without shame, a case occurring in my own practice about eighteen years ago.

CASE I.—I operated upon a young lady for a marked convergent strabismus; the cosmetic effect was fine, but there resulted a distressing diplopia due to an eccentric macula. The patient came to me several months after the operation with the request that the eye be returned to its original position in order to obviate the double image. Of course no operation should have been performed until the actual visual alignment had been ascertained and the probability of diplopia explained to the patient, even if an operation were not refused. When binocular single vision is totally absent or only exists for certain distances, the mental sphere seems to be harnessed to each eye separately and kindergarten methods are required to teach the eyes to do good team work. But it is just this teaching which is necessary to develop that visual consciousness which is essential to binocular single vision.

Donders erred when he asserted that there was a *fixed* relation between accommodation and convergence; this assertion was vigorously and wisely assailed by Stevens over twenty years ago, but it seems to me that the latter writer also was at fault in denying the very close relationship as found in actual practice. While there are fixed laws in optics, such as the "Psychophysical Law of Fechner," that the smallest

perceptible difference of illumination is a constant fraction (about 1 per cent.) of the total illumination, which law also holds good for the form sense, there are no unchanging laws upon which the oculist can depend when dealing with muscular anomalies. Hereditary temperament, environment and occupation as well as physical condition enter very largely into the symptoms, prognosis and treatment.

Fusion is an elastic faculty which strives to keep the two visual impressions upon corresponding areas of the cortex. Some have held that squint is always due to weakness of this fusion faculty, while others assert that, owing to imperfect visual alignment, the stress of obtaining binocular single vision is so great that the fusion sense is not properly developed. It seems to me that the latter theory is the more nearly correct, tho each theory can be upheld by much evidence. In illustration the following cases are cited:

CASE II.—Mr. B., aged 30, was seen December, 1903. He had suffered from an attack of hemorrhagic retinitis two years previous to my examination and was wearing a full correction for mixed astigmatism and 1° right hyperphoria. At this time the retinae were hyperemic but vision perfect. In the next two months a marked retinitis developed and also $2\frac{1}{2}^{\circ}$ right hyperphoria; a 2° prism was added to his glass. The retinitis passed away, the eyes were comfortable and the hyperphoria constant ($2\frac{1}{2}^{\circ}$) for a year, when a new attack of hemorrhagic retinitis reduced vision to 15/100. In June, 1905, the right hyperphoria began to increase and soon showed 13° . Three tenotomies reduced the error to less than 1° . The patient could overcome this hyperphoria easily but was much troubled by a lateral diplopia caused by 2° of exophoria. The sense of lateral fusion seemed to be absolutely undeveloped and required weeks of careful education. There has been no return of any serious symptoms, but at intervals he has needed to stimulate his fusion and convergence.

This case presented a primary muscular fault with sufficient reserve nerve force to develop the fusion function to a marked degree, which enabled him to preserve binocular single vision. The slight exophoria which may have resulted from operations was beyond his control, hence this case tends to prove that both theories are correct. If this patient, with the high degree of vertical displacement, had been born with a weak nervous system instead of being endowed with exceptional physical strength he would have had a vertical squint and no vertical fusion power. On the other hand if he had not been compelled to

exert so much nerve force in vertical fusion the 2° of exophoria would have been overcome without conscious effort.

CASE III.—Miss C., aged 20. October, 1903. A college student, complained of frontal headache and peculiar feeling in eyes. Examination showed 0.5 D. hyperopia and exophoria 12°; in accommodation 28°. Tenotomy was refused, so exercise of convergence and fusion was undertaken. Symptoms of eyestrain disappeared tho a high degree of exophoria remained. She has used her eyes constantly since, has binocular single vision and feels no need of operation.

Worth claims that the fusion faculty can be demonstrated by the sixth week, furthermore that after the sixth year defects in the fusion sense cannot be eliminated by education. In this last statement I must take issue with him, for I have seen many an adult, whose sense of perspective was much below normal, develop it in a marked degree. It is highly important that we realize how much of a burden can be lifted from the nervous system of one who does not have a quick automatic adjustment of the visual lines by the development of the fusion sense. We all have frequent complaints from women who become greatly fatigued at social functions where they must constantly look at and converse with people at varying distances and positions or when crossing a crowded street, which makes necessary the frequent rapid gauging of distances, driving an automobile, and children fail to add correctly double columns of figures and mistake the proper lines in reading or in music. These complaints are often due to a weak fusion sense, which is usually accompanied by some form of phoria. By increasing the amplitude of fusion an automatic control is put in command of the visual lines which takes them out of the sphere of cerebration and places them with the reflexes. Fusion is distinctly a psychological process of great elasticity, which plays an important part in the visual act, and its partial or total absence entails upon the individual either a large outlay of nerve force or more or less restriction in the activities of life. In the refractive tests, great effort is made not to have the axis of the correcting cylinder even 5° off or the strength 0.12 D. from normal, while the ability of the patient to solve the problems of perspective passes unnoticed.

In conclusion, let us consider the nonsurgical measures to be undertaken in correcting squint and phorias. In young children test the refraction carefully and advise a full correction to be worn constantly. Judgment, of course, must be used in high degrees of anisometropia,

also when hypermetropia is combined with exophoria and myopia with esophoria.

I. Examine for muscular imbalance and fusion power. If hyperphoria is found, incorporate a correcting prism with the refractive glass. This latter is important as it is often possible for patient to obtain a lateral fusion with perfect ease after the vertical defect is corrected.

II. Remove reflex irritations from nose and throat, and from the intestinal canal. Examine for flat foot, improper nourishment and insufficient sleep. This may seem to some to be out of the sphere of the oculist but we are primarily physicians.

III. Where the fusion faculty is weak or absent, the patient must first be taught visual consciousness for each eye separately. By wearing a patch over one eye or by the "bar reading" method, Worth's amblyoscope and the stereoscopic charts many patients can be taught fusion with amplitude and finally a sense of perspective. When a true sense of perspective exists there is little danger of the development of squint. As to the details of this exercise I refer you to books by our Dr. Wells and Claud Worth, of London. One thing is essential, that personal attention be given to each case during the whole course of treatment.

859 Seventh Avenue.

OPERATIONS UPON THE LATERAL EYE MUSCLES FOR STRABISMUS.

G. A. SUFFA, M. D.,

Boston, Mass.

A GLANCE at the history of operations for the cure of convergent strabismus not only shows that there has existed a feeling of dissatisfaction with tenotomy and a realization that the operation is a faulty one, but it also indicates a constant desire to correct this form of strabismus by some sort of operation upon the external rectus of the converging eye, with a view to preserving the integrity of the internal rectus of the deviating eye.

In 1839* Dieffenbach did a successful operation for internal strabismus by tenotomizing the internal rectus, and his published account of it aroused a widespread interest, which resulted in a wholesale cutting of the lateral muscle. Dieffenbach himself is said to have done over 3,000 squint operations, and Guthrie, a contemporary, in less than seven months did 340 operations for lateral deviations.

It is not surprising that the sudden popularity which this operation enjoyed soon waned, for as Wilde wrote in 1845:

"Many were operated on whose eyes should never have been meddled with. In some it failed for want of knowledge or of dexterity in the operation; a few were reduced to the condition exactly the reverse to what they were before the operation, namely, that of extreme divergence; in some the eye becoming remarkably staring and prominent, resembling lagophthalmus; others squinted worse than before; several had the caruncle and semilunar fold of the conjunctiva completely cut away so as to leave a deep unseemly gap between the globe and the inner canthus of the eye, as where much violence was used in operating."

It was not until fifteen years later that the operation began to recover prestige, largely through the efforts of Graefe and Critchett, who pointed out the dangers of it.

Critchett seems to have been the first operator to do an advancement in order to remedy a divergent strabismus; since his time an increasing

*Historical Review of Operations on the Extrinsic or Orbital Muscles, by Edw. Jackson, A. M., M. D., in Wood's System of Ophthalmic Operations.

number of operators have been devising methods for advancing, tucking, folding, shortening and resecting the ocular muscles and are still devising them in endless variety, although the differences in them are largely in matters of detail rather than essentials. For the most part, the older operations done by men like Critchett, Weber and de Wecker are in effect the operations being done to-day. Still, every year brings its quota of new operations or old operations revised, for like "the making of many books, there is no end" to the making of operations for the cure of squint. Snellen, Stevens, Stephenson, Williams, Wootten, Black, Cogan, Clark, Greene, Todd, Noyes, Schweigger, Swanzy, Fox, Colburn, Landolt, Prince, Agnew, Knapp, Worth, Savage, Beard and Howe are but a few of the many names associated with operations being done to-day upon the lateral muscles of the eye.

It must be evident to any one who gives the matter a moment's attention that this multitude of methods worked out and presented by progressive minds with a view to correcting strabismus by operative procedures upon the recti muscles indicates a feeling of dissatisfaction with existing methods, stronger than ever before, since the reaction from the orgy of muscle cutting which followed the announcement of the first successful tenotomy.

Although present literature would indicate that advancement of the externus has many advocates, it is very evident that tenotomy, the first operation for correcting convergent strabismus, although known to be faulty still has the largest following and is quite generally regarded as the proper method of treatment.

The reasons are several why the later methods—advancement, tucking, folding, shortening and resection, with their modifications—still occupy secondary positions. In the first place, tenotomy is the easiest operation to perform and shows the quickest results; then the fact that these other methods have yielded such uncertain and varying results, on account of their indefiniteness and inexactness (the operator being left in doubt as to their application in individual cases), has militated against them, but the chief reason is that they have lacked the essential features whereby definite results could have been obtained namely accuracy and reliability.

It is fully realized that strabismus, especially the convergent variety, is a very complex problem, one that is subject to variations and actual changes in connection with refractive conditions, the age of the in-

dividual and his physical status, but it is not, therefore, necessary to conclude, as some oculists have, that it will be impossible for any method to yield uniform final results or that guessing must inevitably enter very largely into all operative work in this direction.

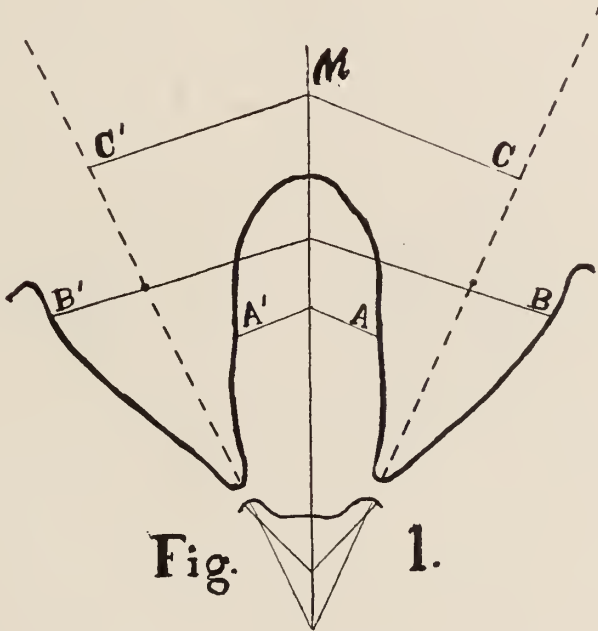
The writer firmly believes that the maze of uncertainty and doubt at present surrounding the subject can be cleared away and operative procedures placed upon a firm scientific basis, that will yield more uniform results than are obtained at present, with as near an approach to the normal muscle balance as it is possible to obtain; and he has diligently labored for several years to place operative procedures of the eye muscles upon this definite and scientific foundation. Step by step he has worked out the method and instruments that he believes fulfill all the requirements necessary for the successful solution of this problem.

Realizing that the problem can be worked out not only quicker but better by a number of men taking up the work in the manner to be presented, I earnestly solicit your coöperation, and ask you to consider with me certain functional and mechanical features in connection with the orbital cavities and their contents that have not received the careful consideration they deserve, and to note the important bearing they have on operative procedures upon the lateral recti.

The normal adductive power of the internal rectus is ten times as great as the normal abductive power of the external rectus, but although the internus of a converging eye shows increased action inward in extreme rotation, that increased action is not maintained in extreme convergence. On the contrary, the increased convergence of the internus is only maintained within a limited range. In extreme convergence, the converging eye invariably loses its excessive action or inward position and usually begins to diverge at from four to two inches from the end of the nose of the individual. Holding a pencil eighteen inches from the end of the nose and slowly approaching it, the usual behavior is this: at from eighteen inches up to about eight inches the converging (deviating) eye will hold its relative convergence; then it loses in relative convergence for several inches until it apparently or actually fixes with its fellow for an inch or two, when it begins to lag or relatively diverges so that when the normal eye fixes the object at the tip of the nose the converging eye will be fixed straight ahead or actually very slightly convergent, while relatively divergent.

While, as has been said, the interni have relatively large independent action, and while they readily acquire adductive and converging power, they possess practically no inherent resistance or recuperative power after a tenotomy.

On the contrary, the externi lack the faculty to increase their abductive power but exercise a restraining influence under normal conditions and have a remarkable recuperative power after large displacement from tenotomy, after a tenotomy upon an internus and also after being shortened according to the author's method for correcting convergent strabismus.



These functional characteristics obviously have an important bearing on operative procedures, and partly explain why tenotomy of an internus must be a faulty operation, and also why tenotomy of an externus for divergent strabismus is unsuccessful.

The mechanical features of the lateral eye muscles, on account of their anatomical relations, have at least as important a bearing on operative procedures as the above functional characteristics. These mechanical features will be demonstrated by a series of diagrams, the

foundation of which is a horizontal section thru the center of the orbits of an actual skull.

At A A' (Fig. 1) the nasal walls or boundaries are seen to be practically paralleled, pointing straight ahead. At B B' the temporal walls are markedly divergent, describing an angle of 45 degrees with the median line M. At C C' the orbital axes diverge 25 degrees from the median line M.

Fig. 2 gives the same outline of the orbits as Fig. 1, but with the eyeballs in situ, 24 mm. in diameter and the center of rotation, at x, 10 mm. from the posterior surface. The eyes are pointing straight ahead in

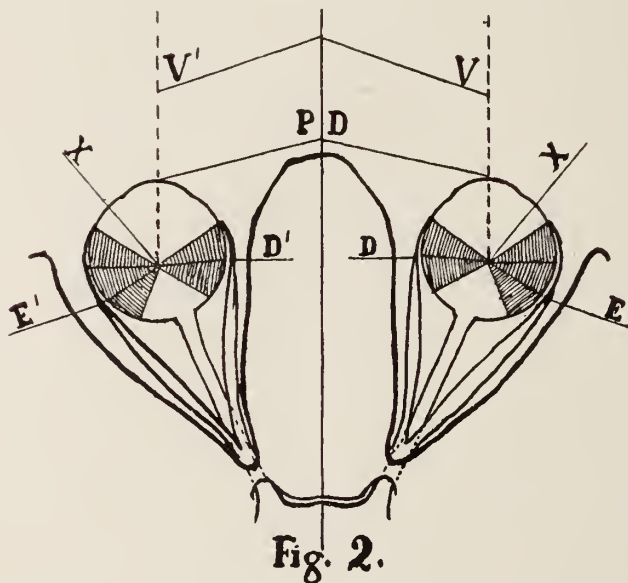


Fig. 2.

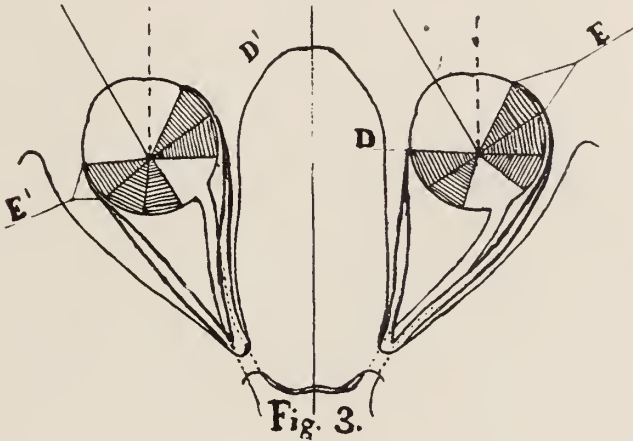
parallelism. V V' represents the visual lines. P D pupillary distance, $2\frac{1}{4}$ inches. D D' internal recti showing a contact arc of 7 mm. and a possible mechanical movement of 14 mm. E E' shows the externi with a contact arc of 14 mm. and possible mechanical movement of 21 mm.

It is readily seen that with the present arrangement of the eyes of man within the orbits that the interni are at an overwhelming mechanical disadvantage as compared with the externi, and that their physical characteristic—tremendous individual action—is a necessity in order to overcome this mechanical handicap.

Fig. 3. D shows the right eye with convergent strabismus of 56 prism degrees or 7 mm. of actual convergence and an entire absence of the contact arc. At E the external rectus is stretched 7 mm., which means not only stretching but also an attenuation of the muscles. This attenuation is readily seen in high degree of convergent strabismus of long standing, whenever the muscle is exposed in operation.

At E', shows 56 degrees or 7 mm. of divergent strabismus, and although the contact arc is reduced 7 mm., it is still as large as the normal contact arc of an internus and is more than sufficient for any further outward rotation that may be required.

At D', shows the contact arc of the internus increased 7 mm., but as this increased contact arc has been obtained by stretching and at-

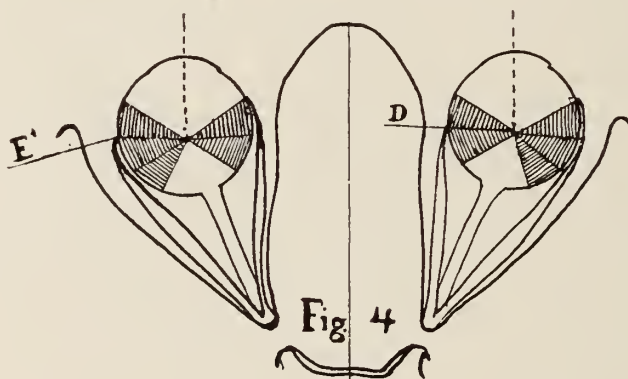


tenuating the muscle, power has actually been lost, and consequently the increased contact arc is of no benefit; as the muscle lacks inherent recuperative power a tenotomy of the externus could never give normal converging power to the weakened internus, even if it succeeded in correcting the divergence. In order to establish normal muscular movements in all positions, it will be necessary to shorten and strengthen the stretched internus, and displace the externus an equal amount, in order to overcome its inherent resistance and later recuperative effect.

Fig. 4. D shows the right eye after having had a convergent strabismus of 7 mm. corrected by a tenotomy; the displacement of the tendin-

ous attachment of the internus of 7 mm. is seen to cause a complete loss of the contact arc, and a mechanical loss of at least 7 mm. of convergence, thus clearly demonstrating that there is a mechanical reason why a tenotomized internal rectus muscle loses power and can never thereafter perform normal movements in all positions. This displacement and weakening of the internus also allows the externus to exert its recuperative power. Therefore under no circumstances is a tenotomy of the internal rectus justifiable.

At E', shows the left eye after having had a divergent strabismus of 7 mm. corrected by a tenotomy. The displacement of the tendinous attachment of the externus of 7 mm. still leaves a 7 mm. contact arc as large as normally possessed by an internal rectus muscle. This fact, together with its inherent resistance, enables the muscle to imme-



diately make the normal excursions required and may later when the recuperative effect is fully established produce a return to divergence.

Fig. 5. E shows the right eye after having a convergent strabismus of 7 mm. corrected by tucking the external rectus according to the writer's method, thus removing the slack from the externus while retaining the normal tendinous attachment. D shows the internal rectus with its integrity preserved and the normal contact arc re-established.

I ask you to especially note that the original tendinous attachments of both lateral muscles have been preserved, thereby retaining their integrity and re-establishing normal muscular relations, making it possible to obtain normal muscular movements in all positions.

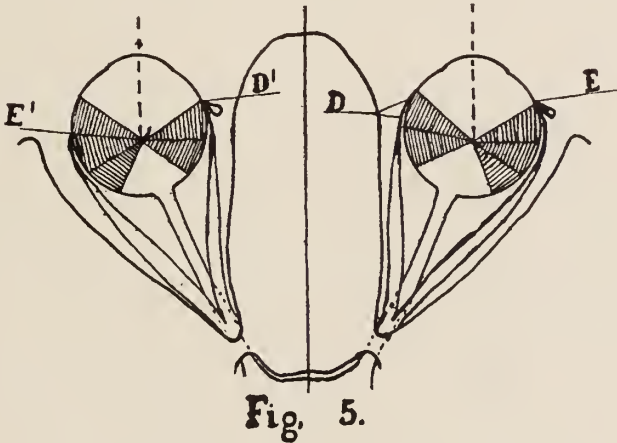
At D' shows the stretched and attenuated internus shortened 7 mm.

with a normal contact arc of 7 mm. and a possible mechanical movement of 14 mm., *i. e.*, with normal relations re-established.

At E' the externus is seen to be displaced backward 7 mm. with a remaining contact arc of 7 mm. and possible mechanical movement of 14 mm., more than sufficient to meet all requirements.

A divergent strabismus thus corrected leaves the tendinous attachment of the internus intact, and by restoring the normal contact arc makes it possible to obtain normal muscular movements in all positions. Owing to its inherent resisting and recuperative powers the externus will be able to meet all demands made upon it.

With these characteristics of the lateral eye muscles in mind, remembering always that the internus is never to be tenotomized, the



writer believes that with the proper method of operating it is possible to correct lateral deviations accurately and scientifically. Before an operation is admissible however, especially for convergent strabismus, all causal influences must have been removed and all available means to correct the deviation must have been exhausted to be sure that the strabismus is permanent.

Each case should be given repeated examinations covering a considerable period of time, including refraction once at least under atropin, and the amount of deviation should be carefully and repeatedly measured both in distance and near vision. Observation of the behavior of the eye when following a pencil in extreme

rotation, to the right, left, up and down and in convergence, as described, will give useful information concerning the muscle balance, but the Stevens tropometer should be used for accurate measuring of the muscle power. The fusion faculty, if any, should be determined by the use of prisms approximating the visual lines. When thus equipped with a thoro knowledge of the conditions, it remains to select the operation. This should include:

(1) Specially designed instruments which will give accurate knowledge of the dimensions of the muscle to be operated and the position and angle of its insertion, also the exact amount of shortening or displacement made.

(2) An accurately placed suture that will give a firm, dependable anchorage at both ends at the time it is placed, and during the healing process without interfering with the circulation; and

(3) Ability to do as much or as little shortening of the muscle as is required.

The writer believes that he has an operation perfected which fulfills these requirements, securing as near an approach to parallelism for distant vision as it is possible to obtain and giving a better chance for normal movements of the eye in all positions than is given by present methods. No attempt, however, will be made to give the details of the operation in this short paper as it will be fully described in an early number of the *Archives of Ophthalmology*.

SUMMARY.

1. There is dissatisfaction with present methods of operating for squint.
2. There are functional and anatomical differences between the internal and external recti muscles that have an important bearing on operative procedures.
 - (a) The interni have great strength and independent action within a limited range, but lack in recuperative power.
 - (b) The externi, on the other hand, lack the strength and independent action of the interni, but have strong resisting power and remarkable recuperative power when weakened by a tenotomy and after being shortened by tucking.
3. On account of the anatomical differences in the arrangement of the interni and the externi, the latter have distinct mechanical advantages over the former.

4. Because of the functional and anatomical peculiarities of the lateral eye muscles, the internus should never be tenotomized or its tendinous attachments destroyed.
5. The ideal operation for shortening the lateral muscles should include:
 - (1) Instruments to measure the muscle to be operated upon, giving the dimensions, position and angle of the tendon insertion, measuring the amount of shortening absolutely, and controlling the amount of displacement.
 - (3) A suture that can be accurately placed, that will give firm hold at both ends, that will not slip, either at the time of the operation or afterwards, and that will not interfere with the circulation of the muscle.

The operation which the writer has perfected fulfills these requirements.

CONCLUSIONS.

Equipped with a knowledge of the differences between the two sets of lateral recti described in the paper, a thorough preliminary study and understanding of the individual case and the writer's method of operating, thereby preserving the integrity of the internus, it is possible to get positive definite results in correcting squint.

220 Clarendon Street.

DISCUSSION.

EDGAR J. GEORGE: As to the etiology authorities differ, but upon the whole it seems that the prime factors may be attributed to existing hereditary and congenital conditions, such as amblyopia, faulty innervation, muscular abnormalities (insertions or relative strengths) and ocular defects, with but few exceptions from irritative causes. We have seen cases with a marked muscular disturbance where the fusion faculty was perfect, and by the acuteness of vision parallelism of the eyes was maintained at all times, but when later on the vision of an eye was diminished or lost by accident or disease a squint ensued.

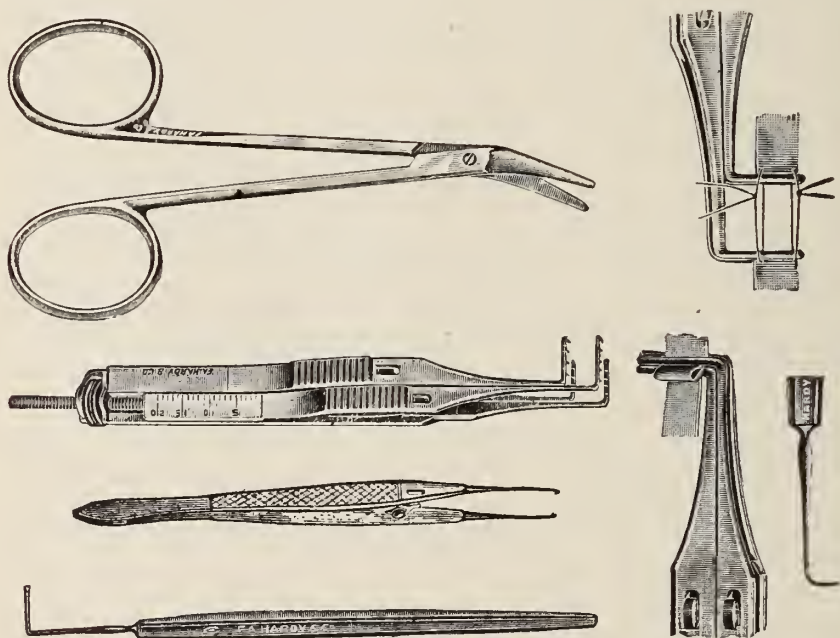
I have in mind a brother and sister who were congenitally amblyopic in the left eye. The brother's eyes were parallel owing to a perfect muscular balance, while the sister was afflicted with a marked convergent squint.

If strabismus was due to congenital defect it would be impossible to remove the cause in all cases, excepting those that arise from excessive accommodation and then only in early life, altho I have occasionally seen cases in later life relieved by correcting the optical defect, while the over developed muscular defect remained the same. Fusion

and muscular development in the young is a tedious and difficult task that requires time and patience; however, in children the nonsurgical treatment of strabismus should be considered first before surgical measures are undertaken.

For the surgical treatment I hope that I may be able to add something of value. I have recently devised a combination recession, tucking or advancement forceps that appeals to me. I have had difficulty in getting it made in time to put it to all the uses that I claim for it, but suffice it to say that I have used it sufficiently to prove its value. The instrument is made by F. A. Hardy & Company, of Chicago.

It consists of two right angle tendon forceps armed with teeth on their upper blades to engage and hold the tendon securely similarly to



the Prince forceps. The forceps are joined together, their angular jaws pointing in the same direction are placed one in front of the other. One of the forceps is stationary, while the other is movable forward and back on the shank in a tongue and groove by the means of a set screw. On the plates of the tongue and groove which constitute the shank of the forceps is a millimeter scale that permits an accurate adjustment to measurement in millimeters desired for the recession, tucking or shortening of a muscle. Each forceps is supplied with an individual snap fastening, so that they can be opened or closed singly or together.

The merit of the forceps lies in its universality, inasmuch as a muscle can be set back, tucked or advanced and sutured singly or in combination by measurement, and without the disturbance of its former continuity or danger of slipping, twisting, malattachment to the globe or loss of its function.

The operation for the recession of a muscle consists of first making a vertical incision thru the conjunctiva and overlying tissues of the tendon. Its tendon being exposed two right angle strabismus hooks (specially devised) are passed beneath the muscle and drawn in opposite directions from each other, thereby stripping the tissue from the muscle as far back as required. The hooks are to be held in place by an assistant while the forceps are being applied. Before applying the forceps they must first be adjusted. The blades are to be closed and the points set one millimeter apart by measurement, then the jaws are to be opened and passed beneath and above the muscle. The hooks are removed, the forceps blade is then brought up snugly against the tendon insertion and the blades closed. The tendon is now severed between the forceps with a special angular scissors, and a hook is passed between the cut tendon and swept around above and below to engage any remaining uncut fibers, as all must be severed. Two waxed silk sutures (waxed to prevent slipping when tying) armed with a needle at each end are passed thru the cut ends of the muscle about a millimeter from its upper and lower borders back of the distal blades of the forceps. The forceps are then gradually separated by means of the set screw to measure as many millimeters as it is desired to set the muscle back, due allowance being made of one millimeter, the opening between the forceps for the incision. After the recession has been accomplished, the sutures are passed beneath the proximal points of the forceps thru the insertion of the muscle and then tied snugly over the points, leaving free ends for removal. The blades are now to be unlocked and the forceps removed. The overlying tissues can be loosely sutured with one suture or not according to the extent of the incision.

The operation for muscle tucking or advancement can be accomplished equally as well with these forceps. For the operation the incision and dissection of the tissues for the exposition of the muscle are the same as described for resection, also the application of the strabismus hooks for holding back the tissues from the muscle. The forceps are adjusted by first separating the blades to the number of millimeters that the muscle is to be tucked or advanced. Two millimeters must be allowed for the width consumed by the forceps blades, as the stitches are to be inserted back of the blades. The blades are then opened and passed beneath and above the muscle, the hooks removed and one blade is brought up snugly against the tendon insertion and both are closed. For the tucking operation the selection and placing of the suture is most important. As catgut is unreliable, silk is to be chosen.

A number of different sutures have been devised and used for the purpose, but Dr. Suffa's suture seems to be the best adapted as it is simple and performs its duty perfectly. To him is due the credit of this particular operation with an instrument similarly constructed for measurement. But when exhibited in Chicago last year it did not possess the recession feature. To make the tuck, as I understand it, but one suture is used by Dr. Suffa armed with a short curved needle on each end. After the forceps have been accurately placed upon the muscle, he begins back of the distal jaws of the forceps by passing a needle downward and beneath the muscle about two millimeters from its lower border, he again reinserts the needle in the same manner downward and beneath, one millimeter nearer the border of the muscle; when the suture is drawn it forms a loop over the border fibers of the muscle. The other needle is taken in hand and passed thru the muscle in like manner two millimeters from its upper border, and the suture drawn taut. The needle is again reinserted downward and beneath the muscle a millimeter from its upper border, and when the suture is drawn it forms a like loop around the upper fibers of the muscle, the same as the lower. Both needles are now passed beneath the tendinous insertion of the muscle beneath the proximal blades of the forceps one below obliquely downward and the other above obliquely upward, after which the forceps are to be removed and the tuck made by tying the suture. The merit of this particular suture is that it prevents the muscle from puckering when drawn upon, and that part of the suture that lies between the loops holds the muscle in perfect apposition throughout its breadth.

A muscle can be tucked by bringing the forceps together first and then sutured. The tissues over the muscle are to be sutured in place and a liberal end of the tendon suture is left. Its removal is an easy matter, which is another excellent feature.

For **muscle advancement** the technique is practically the same as described for muscle tucking, with the exception that the muscle is shortened by the removal of a section between the forceps and the cut ends proximated with the screw by the drawing of the forceps together and ordinarily sutured. After operation a bandage to the eye or eyes is not necessary and cold applications should be applied.

The advantage to be gained by the use of my instrument, aside from the ability of setting back or shortening a muscle by measurement and without disturbing its function or causing a faulty misplacement, is that it enables us to operate strabismic children under a general anesthetic at a younger age than formerly, thereby improving the vision of the squinting eye, and preventing the usual amblyopia in these cases or at least removing the embarrassing deformity, which retards the development of a child socially and mentally.

Before operating a case of strabismus, in order to insure success the deviation should be carefully measured if possible and the relative

strength of the muscles ascertained by Stevens' tropometer, or any other suitable method or device.

It has been the observation of others that in convergent squint the external rectus or recti muscles are frequently found to be weak, as well as the internal rectus or recti muscles of a divergent squint, and when such a condition is present better results as to muscular function and balance would be obtained if the weakened muscle or muscles were first to receive attention by shortening, followed later with recession of the opposing muscle if necessary, and not to do a combined recession and shortening operation at one time, and then only on selected cases.

WM. M. MUNCY: Dr. Moffat in his most interesting paper has covered the etiology thoroly. I was especially pleased to have mentioned congenital deficiency of nerve or its central connections, and in this particular etiological cause I wish to submit a family record.

The father and father's brother being the only children of that generation for a period of some ten to twelve years, had very severe attacks of migraine as often as once a week. The father's brother was childless. The four children give the following record:

One has 5° of hyperphoria and asthenopia. The second diplopia which she ignores. The third, with good muscle balance and but slight error of refraction, can not see distinctly in the distance and at the reading point during the same twenty-four hours due to asthenopia. The fourth has severe hysterical headaches with marked spasm of convergence which has totally destroyed muscular control. Her muscles have been operated upon a number of times for heterotropias of various kinds only to have the spasm in conjunction with the headaches following the operations destroy much of the object sought by the procedure.

In regard to fixed relations between accommodation and convergence I have noticed that persons showing at distance 2° of exophoria and using a plus 2 to a plus 3 glass for reading invariably show 10° to 15° of exophoria at the near point with the presbyopic glasses.

I know everyone present appreciates the work done by Dr. Suffa in placing muscle operations upon a scientific basis. More especially as a beginner in this field I find a great amount of encouragement in the exactness of his methods. I will admit that in my first case I was at sea as to the best operative method of procedure. I disdained the tenotomy if its only recommendation was the ease of performance combined with (it seems to me) a weaker total of muscular force than previous to operation.

I did a large tendon tucking operation on the internus which proved satisfactory. I am in favor of the tucking operation in all cases except where an advancement or recession might be to better advantage.

I feel that the fusion faculty is as yet an unexplored country where but the blazed trail of the pioneers is to be found. Is most of the

difficulty met due to the brain side of the muscular apparatus, *i. e.*, fusion faculty, or to the weakness of the muscles themselves? Muscle exercises so-called stimulate the fusion while on the other hand the fusion exercises strengthen the muscles.

A combination of both in the form of muscle exercises with prisms at the distance with fusion exercises at the near point give the best results.

ROYAL S. COPELAND: I have been much impressed by the great improvement made by this society in the scientific aspect of its discussions in the last fifteen years. Comparing the discussions of the earlier meetings with what has been presented here this afternoon, one must certainly be impressed by the marked advance in the scientific character of the work done. The three papers presented here today have all been of great interest to me; I want especially to thank Drs. Saffa and George for the introduction of those ingenious devices by which the exact amount of shortening required is measured, and thus precision put in the place of guesswork. They have placed in our hands means by which great exactness may be attained. The old fashioned method has impressed me more and more as a failure; it has never accomplished just what it was designed to accomplish. For a long time past I have preferred to make advancement, or rather resection, but with that, too, there has been no way of controlling the exact amount of effect to be produced; it remained a matter of judgment and estimate and in my own experience, many times, I either overcorrected or undercorrected. If by chance I got it exactly right I congratulated myself, but was never sure that I could do it again. The instruments of Drs. Saffa and George will put this class of work upon a higher level of scientific efficiency.

E. D. BROOKS: I wish to mention a method that was recently recommended in a journal, merely for the purpose of advising you to avoid it. The recommendation was to introduce the suture as mentioned in the paper under discussion, including loops about the muscle, then direct it, under the conjunctiva and a few fibers of the sclera, obliquely upward and outward for the superior suture, to near the corneal equator; reintroduce it close to point of exit and retrace close to former passage, making its exit close to its former point of entrance. After making a similar loop with the lower thread the two are drawn sufficiently taut to slightly overcorrect the divergence and tied. I found that I had made too many loops in the suture so that I had great difficulty in advancing the muscle exactly as I wished. If you see that recommendation in the journals, I advise you not to follow it.

D. W. WELLS: It seems to me that the terms advancement, recession and tucking have been used somewhat indiscriminately and that confusion has resulted. The tucking operation means the folding of the muscle and nothing else; when a piece of the tendon is cut out you

have a resection; advancement is the severing of the connection of the tendon and bringing forward the muscular and tendinous tissue to a point in advance of the one which it naturally occupied. The muscle is then attached to the ball of the eye nearer to the cornea than it was before the operation. A tucking is not an advancement.

PRESIDENT HASELTINE: Recession was the term used by Dr. Suffa, I think.

E. J. GEORGE: You can set the forceps upon the tendon, bring the blades together like that and thus advance it.

DR. WELLS: Is not that a resection?

DR. GEORGE: Yes.

G. A. SUFFA: There is no difference between tucking and resection except in one case you leave the loop and in the other you cut it off.

ROYAL S. COPELAND: In my remarks I was not entirely happy in my choice of terms. In my own work I take out a piece of the tendon and bring the cut end farther forward.

DR. WELLS: I have been doing the Worth advancement operation and that I conceive to be properly named. It is not a tucking nor a resection but an advancement.

DR. COPELAND: Exophoria with double vision was referred to as a phoria; that was not an accurate use of terms.

DR. MACKENZIE: Nothing has been said in the discussion about Dr. Shepard's excellent paper on the Nonsurgical Treatment of Strabismus; I was much impressed by some of the points in that paper. In regard to cases of lateral imbalance combined with vertical imbalance, I have found that in low degrees of vertical imbalance the patient is able to correct the lateral imbalance without the use of prisms. In regard to the term eccentric macula I am not quite sure what it means. Is it applied to a secondary macula such as we find in the lower animals? We find this condition especially in birds. It is a question whether the secondary macula has not been developed at the expense of the primary.

G. A. SHEPARD: In answer to Dr. Mackenzie, I can only say that the case occurred a good many years ago and I cannot give all the details. The young lady after operation showed a very definite point of fixation and it was eccentric to the normal position of the macula. She fixed perfectly with that eye, but not in the normal position; it was toward the nasal side. After operation she had to turn her eye inward a number of degrees in order to fix the object.

Fusion training is tedious; it makes us poor owing to the immense amount of time it takes and the small amount of money we get for that kind of work. I do feel that we have been too lax in the examination of such patients on the psychological side; there is a tremendous field there for work. What is perfect fusion? We speak of absolute fusion; what do we mean by it? This has been brought home to me by a color card that I have used. The patient may be able to bring

together two parallelograms, one colored violet, the other yellow green. Is this "perfect fusion?" Not at all; it is not perfect fusion unless they are able to say what the combined color is, first it will be violet, then yellow, then both. Until the patient is able to fuse those colors into one—into a gray color—the fusion sense is not perfect. With cards of other forms the patient may be able to draw together forms quite perfectly. In making our tests for fusion we should take every opportunity to get aid from the psychological sense of the patient and try to make perfect binocular single vision. It is better done before the operation than after.

A. E. CROSS: There are several points brought out in these papers that I wish to emphasize; first, I wish to point out that after your operation for strabismus, whatever it may be, the case is not cured even if there is no apparent deviation, for in all of these cases either we have to contend with a deficient fusion sense or an amblyopic eye, and without developing the fusion faculty there is greater probability of secondary deviation. Comfort depends on a wide amplitude of fusion and this means, as Dr. Shepard has well said, a quick automatic adjustment of the visual lines.

We meet statements and we constantly hear them made in reporting cases that the fusion sense is normal or perfect. This statement should be qualified by stating the tests through which we arrived at such a conclusion. I am repeatedly meeting cases of this kind and I find that binocular vision exists only when the visual lines are parallel, and with only moderate convergence there is either suppression of one eye or diplopia. The convergence necessary for ordinary close work, or reading, is approximately 30 prism degrees, and unless the patient has an amplitude of fusion at least 50 per cent. greater than this, there will be either asthenopic symptoms or suppression.

In a series of tests made by one of the Clark University students, of some of the school children of Worcester, he found that the children who are careless in reading, counting and prone to skip lines and figures had, almost without exception, a low amplitude of fusion, yet so far as the muscle balance was concerned there was orthophoria.

I would like to ask Dr. Suffa if he has not overestimated the strength of the internus, when he says it is ten times as strong as the externus? I believe that it can be trained to overcome ten times as strong a prism as the externus, but that normally there is so much difference, I would question. No mention has been made of the importance of the check ligaments, in operating for strabismus; I believe that if we are not obliged to disturb these there is much that can be said in favor of the tenotomy.

There is one statement made by Dr. George which I think should be qualified, and that is the one referring to congenital amblyopia; I think it is generally conceded that the only attribute of vision at birth is light perception and that all the other attributes of vision are the

result of development; I believe that practically all of these cases of amblyopia are of the exanopsic type, and that we should avoid the term "congenital."

GEORGE RAIGUEL: What about the other eye? Was the macula eccentric in both eyes?

DR. SHEPARD: Only in the eye operated upon: that was the one at fault.

FRANK O. NAGLE: I had a case this winter in which a child had been thoroughly whipped for looking down when spoken to. The fixation required a peculiar position making the parents think that the child was disobedient. I examined it thoroughly and determined that the condition was an anterior polar cataract.

DR. SHEPARD: I do not remember all of the details of my case, but I can positively state that there was no opacity whatever in the lens.

G. A. SUFFA: Dr. George's modified instrument has a good feature when used in tucking the muscle in that it can be quickly placed; but it also has disadvantages. First, the part clamping the muscle is fixed so that it cannot be used to bring the connecting part of the tuck closely into the tendinous angle; second, when the instrument is used in setting back the muscle it necessitates too much disturbance of the surrounding structures. The method presented in the paper avoids unnecessary disturbance of tissues.

Dr. George, in placing the suture, takes a double turn around the edges of the muscle and the hold upon the muscle is obtained by constricting these looped parts. In my suture the tension comes upon the cross thread and constriction of the muscle is avoided.

In answer to Dr. Cross's question on the action of the check ligaments, I will say that I have done as high as twelve millimeters of tucking on both the externi and interni and that I have observed no limitation of action, neither has there been any increased action in the tucked muscles, as might be expected.

SOCIETIES

NOTES FROM THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION, LOS ANGELES, JUNE 27, 28, 1911.

BY FRANCIS B. KELLOGG, M. D.

Los Angeles, Cal.

AS the eye section and that of laryngology and otology were going on simultaneously in different places it was only possible to attend one; the eye section seemed more attractive and hence my report of that follows.

Reprints of the papers had been distributed to the members, who were supposed to have read them, and a synopsis (printed in the program) formed the basis of discussion. I was too late for the first two papers by Adolf Alt, of St. Louis, and F. T. Rogers, of Providence, R. I.

4. The Treatment of Purulent Ophthalmia and Simple Means for Its Prevention in Infants.

MARK D. STEVENSON, Akron, O.

Abst.—Causes of corneal ulceration. Four considerations governing policy of treatment. Antiseptic and strength recommended. Physician's daily treatment. Use of tenotomy hooks or bent blunted probes to secure contact of antiseptic with every portion of conjunctival sac. Method of using drops. Drainage; its importance and method of securing it. Care between physician's treatments. Irrigation unnecessary and dangerous. Treatment in adults. Method of prophylaxis in infants. After care. Importance of prophylaxis. Advisability of its routine use. Danger of overstatement. Necessary legislation. Relation to sex problems.

The paper of Mark D. Stevenson, of Akron, O., upon Purulent Ophthalmia, brought out some interesting comments. Dr. Stevenson treats the eyes once a day with an antiseptic and, to insure its reaching into all folds of the conjunctiva, uses a tenotomy hook or bent probe to draw the lid away from the eye. He omits all irrigation, considering it unnecessary and dangerous; it is hardly necessary to state that this treatment did not commend itself to the majority. The use of instruments in the swollen tissues suggested possible injury to the cornea, altho one specialist suggested using a hairpin, bent to form a retractor, which would seem to the writer better than a probe. The section did not balk at the hook so much as at the omission of all irrigation. It was brought out that the effectiveness of the latter was mechanical rather than germicidal, and hence a boric solution is ade-

quate. [The writer has always used a dark pink permanganate solution, giving the benefit of the doubt to the germicide.] The section divided on the point of argentum nitricum vs. protargol or argyrol; several had abandoned nitrate and claimed better success with the less irritating substance, others considered nitrate of silver a sheet anchor.

8. Vacuum Fixation of the Lens, and Flap Suture, in the Extraction of Cataract in Its Capsule.

VARD H. HULEN, Houston, Tex.

Abst.—Desirability of extracting a cataract in its unbroken capsule not questioned; the problem is to find an intracapsular method justifiable for general adoption. Subsequent experiences with vacuum method already published entitle it to further consideration. The steps of this operation detailed. The advantages of the flap suture tied immediately after delivery of cataract are: (1) Ease and safety of replacing iris and subsequent manipulations. (2) The securely closed section facilitates the healing period. (3) The sutured conjunctival flap has decided nutritional value where the cornea has necessarily been bisected as in all methods of intracapsular extraction. Further experience may perfect a subconjunctival delivery of the lens with the vacuum cup, perhaps without an iridectomy—an ideal operation. Vacuum fixation of a cataract gives perfect control in delivery, requires no pressure-manipulation, and does not injure the capsule. Certain specifications in regard to apparatus are important and future experiences may add to its perfection.

This was perhaps the most valuable single paper of the session. It represented the revolt against the crudities of the Smith operation while recognizing the importance, and would certainly seem to have met the issue. A hollow pencil terminating in a flat circular spoon 4 mm. in diameter with an opening in the center of the bowl connecting with the shaft tube is joined by rubber tubing with a vacuum producing apparatus. The preliminary incision embraces half the cornea, is peripheral and terminates in a conjunctival flap which is left incomplete, *i. e.*, with an uncut bridge of conjunctiva. A fine suture is passed crossways of this bridge above and then back again below, near the cornea. The threads are not drawn, and the bridge is cut with scissors. The concavity of the spoon is then applied to the surface of the lens and the vacuum made effective by means of a stop-cock or cut-off about 1½ inches from the spoon. The lens becomes rigidly fixed to the instrument, which is then moved from side to side of the incision causing the lens to rotate in its bed on its visual axis. This ruptures the suspensory ligament by tension upon every part of the periphery at the same instant. The lens is then lifted from its bed and withdrawn. Of course there were improvements at once suggested both in the instrument and in the procedure, but the author in closing said that the ideas involved had all suggested themselves and been

demonstrated not to work. He had a record of eight successful extractions to the credit of his method. The vacuum gauge should register from 20 to 25 numbers.

10. Intraocular Neoplasms, with Report of Five Cases.

F. PARK LEWIS, Buffalo, N. Y.

Abst.—Recent studies have added nothing to our knowledge of the pathology and etiology of these growths. It is urged that all cases be reported, thereby increasing the accuracy of statistics and emphasizing the importance of early enucleation. Every physician should recognize glioma while still intraocular. Three cases are reported of glioma retinae, one glioma of the optic nerve, and one melanosarcoma, as well as one simulating intraocular tumor.

This paper resulted in the report of many cases of glioma, several of them double, and some instances of more than one case in a single family. Operation while the condition is still intraocular is the only hope and the obvious importance of early diagnosis was impressed. Dr. Lewis quoted a report from the practice of Dr. Thompson of five children out of a family of fourteen, the victims of glioma. Dr. Thompson, of New York—secretary of the section—emphasized the importance in operating of drawing the eye forward in order to sever the optic nerve as far as possible behind the eye, for the reason that the nerve is the avenue of escape for the disease, and is liable to be involved early.

Dr. Jackson paid his respects to the "Doctors" of Optometry in

14. The Optometry Question and the Larger Issue Behind It.

EDWARD JACKSON, Denver.

Abst.—Correction of refractive errors of economic importance because such correction cures or prevents disease or relieves suffering. Claim that optometry is something apart from medicine, which has been basis for demand for optometry laws, is false; and writings, discussions and advertisements of optometrists, as well as terms of laws they desire, show that they do not believe the claim themselves. Optometry will not be permanently separated from other parts of ophthalmic practice. Placing it in hands of distinct professional class is likely to be followed by separation of the whole of ophthalmic practice from general profession of medicine. To prevent this, every optometry law should restrict those licensed under it to fitting of glasses, and should prohibit them from using word doctor or similar terms in such way as to confuse the public. Every complete medical school should establish systematic course to fit graduates in medicine for ophthalmic practice.

Dr. Roberts, of Pasadena, suggested that we could hardly expect the public to appreciate the distinction between the optometrist and oculist as long as general practitioners of medicine refer their cases of head-

ache to the optician; a systematic education of the profession in this matter was suggested.

17. Tuberculous Cyclitis, Following Nonperforating Injury to the Eye.

OSCAR DODD and FRANCIS A. LANE, Chicago.

Abst.—Patient, aged 10, giving history of blow on eye ten months previously, presented symptoms of beginning interstitial keratitis. Later, *whitish* mass was seen below in region of ciliary body. Tuberculin tests were made but *no reaction* followed, local or general. Eye quieted down finally but corneal opacity remained. Patient returned two months later with eye inflamed, lens opaque, and iris pulled forward below, simulating ciliary tumor. Enucleated eye was examined pathologically and mass of cicatricial tissue was found resting on ciliary body and lens. This exudate consisted of two parts; posterior, of older formation connected with rupture of retina near ora serrata, and the anterior part having fresh exudate from ciliary and iris, showing tuberculous formation with very few tubercle bacilli. Points of interest: (a) tuberculous inflammation occurring several months after injury, (b) negative reaction to repeated tuberculin tests, (c) rapid formation of cataract and protrusion of iris below simulating intraocular tumor.

Dr. Weeks called attention to the white color of tuberculous deposits or excrescences in the eye; when the iris was involved he had seen them appear in the partially dilated pupil as tufts.

18. The Venous Pulse and Blanching of the Retinal Vessels Induced by Making Pressure on the Eyeball an Index to the General Blood Pressure.

MELVILLE BLACK, Denver.

Abst.—When examining the retinal circulation with the ophthalmoscope, a very good idea can be formed of the state of the blood vessels and the vascular pressure by the action of these vessels when the intraocular tension is raised by making pressure on the eyeball with the finger. If the vessel walls are normal and the blood pressure normal the pressure on the globe will cause venous pulsation and blanching of the retinal vessels. If the vessel walls are hard or the blood pressure high these two signs will be diminished or absent in accordance with the physical conditions.

Dr. Black did not present this as a method of estimating the degree of blood pressure, replacing the sphygmomanometer, but as a rough and ready method of determining its presence. If present, the sphygmomanometer was to follow at once. As he uses the electric ophthalmoscope he is able to use his index finger on the external canthus for pressure; in reflected light this would interfere with the illumination, necessitating the use of the little finger on the lower lid.

(To be continued.)

BOOK REVIEWS.

HINTS FOR THE GENERAL PRACTITIONER IN RHINOLOGY AND LARYNGOLOGY. By DR. JOHANN FEIN, privatdocent at the University of Vienna. Translated by J. BOWRING HORGAN, M. B., B. Ch., late House Surgeon at the Hospital for Diseases of the Throat, Golden Square, London, W. Cloth, 223 pages; 40 figures in the text and 2 photographic plates. Price, \$1.50. New York: Rebman Co. 1910.

One of the excellent features of this practical little book is that it can be carried so readily in the pocket. It can well be commended as showing the general practitioner those diagnostic and therapeutic principles which it is possible for him to put into daily application; this is of more importance than covering ground which he is unable to apply—successfully. Bearing in mind that the book gives only the personal views and experience of the writer one is not surprised to find but one nasal speculum mentioned.

Belloq's canula and plugging the posterior nares are condemned. The operation for subluxation of the cartilaginous septum is insufficiently described for the general practitioner to undertake safely; the book merely says: it "is easily carried out under cocain anesthesia, consists in reflecting the mucous membrane in the form of a flap and then resecting the prominent part of the cartilage."

"Irregularities in the shape of the interior of the nose must be considered the rule rather than the exception."

In cauterizing the nose for hemorrhage Dr. Fein prefers fused chromic acid to nitrate of silver or trichloroacetic acid, and cautions that "a chromic acid globule cauterizes effectively only if it is a reddish brown color on cooling. A small piece of cotton wool is placed in the vestibule to protect the eschar from injury, the excess of chromic acid having been neutralized by swabbing with 2 per cent. sodium carbonate." He plugs the nose with iodoform gauze; possibly competition is not sufficiently keen for him to care about the odor of this. We confess that we would rest easier—as would the patient—with formidine gauze, anesthone gauze or subnitrate of bismuth gauze. "The crude method of extracting nasal polypi with forceps is no longer employed. It is important to know that nasal polypi tend to recur." Naturally our author says (thinks) that polypi can be cured only by operation; we hardly expect him to be familiar with the possibilities of homœopathic prescribing. He protests strongly against the expressions "catarrh" and "chronic cold in the head." Sexual stimulation is omitted from his list of exciting causes affecting the erectile tissue of the turbinals. In Vienna "so much importance, as far as the nose itself is concerned, is not attached today as it was formerly to the so-called reflex nasal neuroses (headache, neuralgia, asthma, epileptic

attacks, etc.).” We do not find any reference to the nose as a cause of eye trouble.

Fein advises the removal of all tonsils which are large and project prominently between the faucial pillars, specially if the surfaces are markedly irregular. Only if they so project freely during quiet respiration may tonsillectomy be considered an easy operation, if the general practitioner would “spare himself unpleasant surprises.” No description is given of enucleation; that operation—altho “extensively advocated in America—has found no adherent in Europe.” The object in tonsillotomy “should be to remove so much that the remaining stump no longer projects beyond the pillars of the fauces. It is not a question,” he continues, “of trying to extirpate the tonsils, but rather of replacing their extensive and easily infected surfaces by two smooth resistant scars, and of causing those parts which are not removed to atrophy and recede within the niche between the faucial pillars.” Our author, in opposition to Heuking, of St. Petersburg, does not consider most cases of serious hemorrhage after tonsillotomy due to injury of the pillars; he says the dangerous cases of postoperative hemorrhage are simply due to ignorance of the fact that if the tonsillar artery be cut exactly at its point of entry the tonsillar capsule will hold the artery open; this is especially liable to occur in adults owing to their increased rigidity of the vessel walls.

A marked development of granules on the posterior pharyngeal wall points to an individual predisposition to hyperplasia of adenoid tissue. “It is now generally admitted that many of the remote effects of obstructed nasal respiration are directly dependent upon excess of carbonic acid in the blood.” “Any other cause of prolonged nasal obstruction than adenoids is only met with in the rarest of cases amongst children.” After adenotomy the blood shows increased hemoglobin and a diminution of leucocytes.

“Tuberculosis of the larynx not uncommonly occurs as a primary affection, and then may be quite cured before any other organ has become infected. A secondary infection (even of the lungs) does not however exclude the possibility of curing the laryngeal disease, and it is a great mistake to think that laryngeal tuberculosis requires no treatment owing to the simultaneous existence of an incurable pulmonary tuberculosis.”

A MANUAL OF DISEASES OF THE EAR, NOSE AND THROAT, for the Family Physician and the Undergraduate Medical Student. By HENRY OTTRIDGE REIK, M. D., Associate in Ophthalmology and Otology in the Johns Hopkins University; Surgeon in the Baltimore Eye, Ear and Throat Hospital. Assisted by A. J. NEILSON REIK, M. D., Surgeon, Baltimore Eye, Ear and Throat Hospital. 374 pages, 81 illustrations in the text, and 2 colored inserts. Price, cloth, \$3.00; half leather, \$4.00. New York and London: D. Appleton & Co. 1911.

The best work of its kind that we have yet reviewed; not going too deeply into these specialties, but fitting the family physician (as well as a mere book can) to diagnose any of these ordinary diseases and to treat the simpler ones with an intelligent recognition of when an expert should be consulted.

The book is submitted as an answer to the problem which is puzzling the medical colleges: about 75 per cent. of the medical students are preparing to become family physicians, and the curriculum can not afford any more time for the eye, ear, nose and throat than just enough for the purpose indicated above.

In arranging the chapters—each of the 21 may permit within the hour clinical demonstrations—the topics are arranged in logical, pathological and clinical sequence.

Following the Anatomy and Physiology of the Organ of Hearing and Methods of Examining the Ear, the third chapter considers the Symptomatology of Ear Disease—pain, fever, discharges, tinnitus, stuffiness, deafness and vertigo. Then follow diseases—classification, general pathological considerations, etiology, pathology, symptoms, prognosis and treatment.

We are sorry that Houghton's modification of the Valsalva auto-inflation is not even mentioned; the meatal air cushions are such an insurance against injury to the ear drums from the repeated inflation. We feel safe to assert that not one of the graduates of the New York Ophthalmic Hospital for the last thirty years has instructed his patients to inflate the ears without stopping up each external meatus with a finger or thumb during the process. Dr. Reik wisely cautions against autoinflation when the membrana vibrans is atrophic or so relaxed as to bulge under slight pressure; but we think he will not hesitate to trust most of these cases with the "modified Valsalva."

Our author prescribes formalin 1 to 250 of water for irrigation of suppurative otitis media; this is unnecessarily strong and too apt to be very irritating as well as painful. We would hesitate to use this so strong as 1 to 1000 in the middle ear; patients have complained when that penetrated the Eustachian tube. One to 3000 is strong enough for thoro irrigation.

No mention is made of the culture of lactic acid bacilli in this connection. The reviewer has had gratifying results with massolin for otorrhea which had resisted other local treatment.

Lateral sinus thrombosis is discussed very clearly; among the symptoms our author states that "leucocytosis, with great predominance of polymorphonuclear cells, is generally much higher than when simple mastoiditis exists, tho not quite so high as the same symptoms are apt to be in leptomeningitis or brain abscess." "The general medical profession," he goes on to say, "has scarcely begun to recognize the seriousness of chronic purulent diseases of the nose. . . . The possibility of any chronic headache being of nasal origin should be kept constantly in mind."

Discussing the cause of septal deformities, Reik endorses the idea that they are usually due, when not traumatic, to long continued pressure of delayed primary incisors which, forcing the cartilage out of its groove on the upper border of the vomer as they grow, spurs and deflections form as a consequence of abnormal position.

Hay fever, we are taught emphatically, "is *not* a neurosis, in the sense in which that term is ordinarily used; and, secondly, it is a complete disease entity, having its own distinct characteristics, due to a known specific toxin.

It is a pleasure to review so moderate and broad minded a writer; he recognizes that *medicinal* treatment of chronic rhinitis and of otorrhea is sometimes very satisfactory without resort to surgery, and writes: "It is possible for some women, even in our northern cities, to wear low shoes, thin stockings and collarless gowns on the street thruout the winter with safety, while to others such a mode of dressing would be productive of dire results. Some persons simply can not be comfortable with heavy clothing, can not wear woolen undergarments, and run greater risks of injuring their health by overdressing than by wearing what appears to their friends to be insufficient clothing. This is not to justify the course of the foolish girls or boys, some of whom are found in every large community, who consider it clever or 'sporty' to run about in bad weather without hat or wraps or with thin shoes."

THE INTERNATIONAL HOMŒOPATHIC MEDICAL DIRECTORY, 1911-1912.

Edited by J. ROBBERSON DAY, M. D., and E. PETRIE HOYLE, M. D. (U. S. A.) *New Enlarged Series*; 16th and 17th years of publication. London. Homœopathic Publishing Co., 12 Warwick Lane, E. C. 420 pages. Price, 4 shillings, net. \$1.00.

This valuable and interesting handbook is so much enlarged and improved as to be scarcely recognizable.

Of importance to many travellers are addresses of various physicians in Europe who speak our and other languages. The editor "made attempts at a large hotel in Berlin to obtain a homœopathic doctor; we were politely informed that we 'could have one in two minutes' (evidently an allopathic doctor connected with the hotel). When pressed hard it was admitted he was not altogether a homœopath but that he gave homœopathic medicines if the patient wanted them (which is rather incomprehensible). Well, we could not locate a homœopathic doctor by or with the aid of any hotel servant or guide, notwithstanding a palm was crossed with silver, but finally we were referred to a certain 'allopathic chemist' who would perhaps (!) be able to direct us to a homœopathic chemist, if not a doctor. After trying four such chemists, we found one assistant who kindly gave us the address of a homœopathic chemist to whose place we went in a taxi, arriving after nearly two hours' persistent search, and aided with

some evidence of sincerity at the hotel, where we were fairly well known. This same test, with but slight variations and same results, was repeated in Paris, where we were even better known than in Berlin."

An International Message was written for this Directory by Dr. Arndt and is published in English, French, German, Italian, Spanish and Portuguese.

Over 107 pages are devoted to the United States of America. The cards of 73 subscribers are followed by lists of members of the American Institute of Homœopathy and its current committees, three blank pages in which one can write the 1912 officers and statistics (from the report of the Institute Bureau) of colleges, hospitals, societies and journals. The latter are remarkable for some of their omissions: we miss The American Institute of Homœopathy and The American Homœopathic Ophthalmological, Otological and Laryngological Society. While appreciating the difficulties in the case it is hard to see why this "Directory for 1911-1912" gives the 1909 presidents of (the New York State and Kings County) Societies. Among the journals The Homœopathic Eye, Ear and Throat Journal is listed altho merged at the beginning of this year with The Journal of Ophthalmology and Otology, which is not mentioned.

Five pages of appreciative notes "by a Foreigner during a hurried trip" to "the States" begin: "Most notable to the stranger and foreigner was the obvious consciousness of the American brethren that they were an important medical factor in the State; that their debates and decisions were no mere inconsidered trifles. . . . This conscious note of power was entrancing; and for the foreign delegates, whose domicile is in the cold shade of opposition, it was as tho they had come into another planet."

This valuable handbook goes to every civilized country in the world and deserves the support of every physician and pharmacist; the former is poor indeed who can not contribute one dollar, and we assume that the cost of an advertisement to the latter is not prohibitory.

It is a matter of surprise to find no advertisement of the New York Ophthalmic Hospital which offers the best graded course of instruction in diseases of the eye, ear, nose and throat in the United States, which (with Oxford) is the only school in the world empowered to grant a diploma in ophthalmology, and which is the only homœopathic school in the world for the fitting of these specialties.

A postal card to the publishers will ensure the receipt of a circular when the next issue of the Directory is being compiled—the next edition will probably be issued about Easter, 1913.

BISMUTH PASTE IN CHRONIC SUPPURATIONS, Its Diagnostic Importance and Therapeutic Value. By EMIL G. BECK, M. D., Surgeon. North Chicago Hosital. With an introduction by CARL BECK, M.

D., Chicago, and a chapter on the Application of Bismuth Paste in the Treatment of Chronic Suppuration of the Nasal Accessory Sinuses and the Ear, by JOSEPH C. BECK, M. D., Professor of Otolaryngology in the Eye, Ear, Nose and Throat College, Chicago, and the College of Physicians and Surgeons, Chicago. 237 pages, 81 engravings, 9 diagrammatic illustrations and a colored plate. St. Louis: C. V. Mosby Co. 1910.

No surgeon, specialist or physician can be properly up to date unless familiar with the possibilities of bismuth paste, for which the profession is indebted to the Becks. A chapter is given to the use of the paste in dentistry and one to Bismuth Poisoning and Its Prevention, but our interest centers in the application of this treatment to the sinuses, ears and mastoid.

After more than a year of experimentation Joseph Beck has discontinued this treatment in atrophic rhinitis, in chronic lacunar tonsillitis, and as a primary dressing after submucous septal resection, also as a primary dressing (at the time) of radical mastoid—because some of the paste may get under the flaps and prevent or delay union. Injections are useless in ethmoid suppurations—cannot reach all the infected cells—but are employed as a primary dressing after exenteration.

Beck values it as a secondary dressing for closing the retroauricular wound of simple mastoid cases, and to control the suppuration and stench, as soon as union has taken place, after the radical mastoid operation; and in selected cases of simple mastoid with primary closure of the wound, if the bony walls are absolutely intact and the infection is not of a virulent type, he uses it as a framework for bone formation. He considers the paste as good as other palliative treatments for chronic suppuration of the middle ear, of the antrum of Highmore and the frontal and sphenoidal sinuses. It has produced its best curative results in the radical obliteration of the frontal sinus and the antrum. "In otitis externa eczematosa, filling the external auditory canal with the paste is preferable to other methods of local application." [Query, to the vacuum electrode?—Reviewer.]

"Acute suppuration should never be treated with the paste;" but it is recommended, to control the scabbing and bleeding of septal ulcer, that the anterior half of the nasal cavity be filled once or twice daily with Bismuth Paste No. 2, which can check quite profuse hemorrhage. This same preparation, repeated until the cauterized surface is healed, will prevent too great a reaction after actual cautery of the inferior turbinated body, prevent synechia formation and too easy loosening of the eschar. It is also recommended as a post operative dressing after turbinectomy, where splint or gauze is not required, that the cavity be filled with No. 2; but if packing be necessary impregnate the material with bismuth paste No. 1. The reviewer testifies to his satisfaction with gauze filled with bismuth powder.

After middle turbinectomy and ethmoid curettement the nasal cavity is filled with as solid paste as can be forced from the syringe, this remains until the next morning, its presence preventing bleeding, adhesions and decomposition of secretion; we are assured that there is positively no such blocking of the nasal cavity as to cause any retention—in fact, it has been proven that the bismuth paste dressing is an excellent drain, the drainage taking place between the nasal wall and the bismuth dressing. There is no need of removing the paste; most of it will run out or be blown out, and what remains is absorbed. It has been found that with this dressing no after treatment is necessary.

The Journal of Ophthalmology, Otology and Laryngology

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Lancaster, Pa., and New York, September, 1911

No. 9

SYMPOSIUM—DISEASES OF THE ETHMOIDS.

ETHMOIDITIS.

IRVING TOWNSEND, M. D.,

New York City.

ETHMOIDITIS, as its termination implies, is a general term used to describe the various forms of inflammation affecting the ethmoid cells or sinuses. In structure of these cells will only be referred to in a general way as a series of small cavities, usually from six to twelve in number, located in that portion of the ethmoid bone which forms the outer wall of the nasal passage external to the anterior portion of the middle turbinate, above and behind the attachment of the superior turbinate. Externally the sinuses are bounded by the orbital plate of the ethmoid, anteriorly by the posterior wall of the frontal sinus and the hiatus semilunaris and posteriorly by the wall of the sphenoidal sinus. These cells form two groups known as anterior and posterior, divided by a rather firm lamina of bone which forms the strongest portion of the attachment of the middle turbinate. The size, shape and arrangement of these cells varies greatly in different individuals and the division into anterior and posterior groups rests entirely on the fact that the anterior cells drain into the middle meatus and the posterior cells into the superior meatus, this being of the utmost diagnostic importance when seeking the source of an ethmoid empyema.

In the majority of cases each cell is drained by a separate opening, altho it frequently happens that two or three cells may communicate by incomplete septa forming a series having only a single common exit.

Again we find cells having no discoverable openings being to all intent closed cysts. It occasionally happens that so-called accessory cells develop, usually in the body of the middle turbinate but occasionally in the uncinate process. The lining membrane of the sinuses is a modification of the nasal mucosa, having a covering of columnar epithelium less richly supplied with muciparous glands, a very thin fibrous layer constituting the so-called mucoperiosteum.

The normal secretion is a thin, watery, transparent fluid, slightly alkaline in reaction.

Ethmoiditis may, for convenience, be divided into the following forms:

- | | | |
|-------------|---|--------------------------------------|
| 1. Acute. | { | Hyperemic. |
| | | Catarrhal. |
| | | Suppurative. |
| 2. Chronic. | { | Catarrhal. |
| | | Suppurative, nonpolypoid. |
| | | Suppurative, polypoid. |
| | | Latent, or residual sinus infection. |

In the progress of medical knowledge along the lines of specialism our nomenclature is constantly being extended to include terms more accurate and definitely descriptive. In this process of evolution it seems to me that the elimination of obsolete words does not keep pace with the coinage of new ones and we still find in our technical literature such terms as "cold in the head," "coryza," and "catarrh" used to describe conditions which have a definite pathology. Without any risk of appearing pedantic it would seem that we might relegate such expressions to the subordinate positions which, from their derivation and lack of pathological significance, they are entitled to hold.

The various forms of ethmoiditis which are now correctly recorded in our case books were a few years ago included under the head of rhinitis, or some more general term.

It is the duty of the rhinologist to correct the popular fallacy, not infrequently encouraged by practitioners, that all attacks of acute intra-nasal inflammation are to be considered as "catarrhal colds" and either treated as of slight importance or disregarded altogether.

ACUTE ETHMOIDITIS occurs in three distinct forms:

1. The transitory hyperemic, which accompanies nearly all congested or inflamed conditions affecting the nasal cavities and which seldom requires any special treatment but subsides spontaneously.

2. The catarrhal, which is associated with the more severe inflammations of the nasal passages and in its milder manifestations is only one stage beyond the hyperemic and usually disappears with the subsidence of the general inflammation. In the more severe form, such as accompanies influenza, measles, scarlatina and other infections, the services of the rhinologist are frequently required. The most common symptom is pain and fullness over the ethmoid region associated with more or less stoppage of the nostril of the affected side. The pain may be dull or neuralgic in character, radiating to the temporal or frontal region. Tenderness on pressure is often present.

Treatment.—Aconite, belladonna and gelsemium are the chief remedies.

Locally: An ice bag often affords marked relief, but *hot applications* are frequently more efficacious. The nostril should be kept open with cocain and adrenalin and hot saline douches used every few hours. A warm oily vapor is often beneficial and grateful to the patient.

In the acute suppurative form the symptoms are practically the same as above but may be much intensified. Rigors, fever and malaise are apt to be present and the pain is more severe and throbbing in character. This is especially marked if the case be one of so-called closed ethmoiditis, in which the pus is pent up in one or more cells and the element of pressure is added. As a rule the pain subsides gradually, as free drainage is established.

In the average case the treatment outlined above will be efficacious, especially if the drainage remains unobstructed. Where there is difficulty in establishing and maintaining drainage the case is liable to go on to the chronic form unless relieved by operative procedures.

In this class of cases I have found argyrol tampons, as advocated by Dowling, extremely useful and have been able to effect a cure in a number of cases heretofore regarded as operative.

CHRONIC ETHMOIDITIS.—The simple or catarrhal form is usually associated with a chronic inflammation of the nasal passages and is the result of neglected or improperly treated acute attacks. These cases are subject to acute exacerbations and in fact are usually produced by a series of acute attacks by which the lining membrane of the cells is thickened, the muciparous glands destroyed to some extent and in some instances going on to sclerosis or atrophy. The secretion is scanty and appears in the upper or middle fossa as a scanty, thick, yellowish, tenacious discharge which is prone to adhere to the under-

lying tissue and form crusts. In the chronic form there is seldom any pain but a sense of discomfort and dryness is frequently experienced. The breath has a fetid odor at times, not due to the crusts themselves but to putrefactive changes in the cells by which offensive gases are generated. This condition is often associated with a general atrophic rhinitis but may exist independently and in fact is often overlooked or masked by the symptoms of fetor and crust formation which have for so long been considered as the diagnostic signs of atrophic rhinitis. These cases are for the most part curable by establishing free access to the diseased cells and applying solutions of argyrol, ichthyol and occasionally a strong solution of nitrate of silver.

If the cell exit becomes closed by polypoid tissue, or in any other way, the contents are apt to undergo putrefactive changes and an empyema result.

Chronic suppurative ethmoiditis may result from either of the foregoing forms in the manner indicated but is usually the direct sequel of a neglected acute attack. While the acute suppuration is at first limited to a single point of infection, involving one cell or a small group in the chronic form, it is not unusual to find that the infectious process has extended to the remaining cells of the affected side as well as the adjacent accessory sinuses and occasionally we find all, or nearly all, the accessory cavities involved.

The relation between ethmoid suppuration and the development of nasal polypi has been the subject of much study and speculation. Twenty-five years ago Woakes called attention to the frequent co-existence of polypi and ethmoid disease and described the condition as "necrosing ethmoiditis." Later on, when we came to recognize the true nature of polypi as simply overgrown exuberant granulations which were prone to develop from continuous irritation, especially about the orifices of pus forming cavities, our views have been materially modified.

While some cases of chronic suppuration show no tendency to polypoid degeneration the majority do to some extent, not going so far as the formation of typical pedunculated growths but sufficient to constitute an important factor in the treatment and to increase the difficulty of maintaining free drainage.

The fact that a very large majority of cases of accessory sinus disease begin in the ethmoid cells is explained by the peculiar anatomical structure of the part and its convenient location in that path of the air

current by which infectious material finds ready access. Acute rhinitis, influenza, measles, scarlet fever and pneumonia are among the recognized diseases giving rise to infection of the ethmoid cells.

Several forms of pathogenetic organisms are found in the discharges, either singly or in combination. Staphylococci and streptococci are frequently found in pure cultures. Pneumococci occur in many cases, gonococci occasionally and during epidemics of la grippe the specific germ of that disease is often present.

The mode of infection is probably in most cases by direct invasion along the mucous membrane, which process may be greatly facilitated by improper efforts to cleanse the nose, as by forcible syringing or spraying under pressure and by blowing the nose violently. There is good evidence that in some cases the disease extends to new foci through the medium of the blood and lymph vessels, as in the involvement of the brain and submaxillary glands, which later have a *direct* connection with the ethmoid cells through lymph channels.

The distinction made between so-called *open* and *closed* ethmoiditis is somewhat arbitrary altho it has considerable clinical significance. In the closed form there is no outlet for the infectious material and if the process be an active one it will naturally cause pressure on surrounding structures; the pus, burrowing in the direction of the least resistance, is liable to reach the orbit or the brain.

While this closure of the ostium is apt to be a gradual process due to the growth of granulation tissue, it will readily be seen that when it becomes complete it constitutes a serious menace to the health of the individual and indeed to life itself.

Another type of closed sinusitis is that in which the inflammation rapidly subsides and the cell contents become encysted more or less completely, taking on the character of a cold abscess. The isolated mass may undergo gradual changes into a colloidal or caseous material in which form it often remains inert for years. This result may be considered as one of nature's unaided efforts to effect a cure but the fact must not be overlooked that it may be reinfected or lighted up at any time by an acute inflammation and assume all the serious features previously described.

The *open* ethmoiditis in which the discharge from the affected cells finds free exit into the nasal cavity is much less dangerous to surrounding structures altho it has a greater tendency to infect the other accessory sinuses by reason of the ease with which particles of pus may

gravitate or be forced into them. The lacrimal duct and glands may also be infected by a discharge from the ethmoid cells and it is well to bear in mind the possibility of abscess formation in almost any portion of the nasal cavity from this source.

I recall a case in point, operated in Chicago last year by the courtesy of our president, Dr. Haseltine, in which there was a hypertrophied middle turbinate, a purulent discharge from the anterior ethmoid cells and what was regarded as a crest or ridge on the bony septum. As the septum was somewhat deflected submucous resection was at first considered but ruled out because of the presence of pus. After the removal of the anterior two-thirds of the middle turbinate the anterior cells were curetted and also the posterior, which were found to be diseased. On attempting to peel up a flap on the supposed septal spur the whole mass collapsed and was found to be an abscess. As the discharge from the posterior cells passes over the middle turbinate and frequently is found high up on the side of the septum the mode of infection was rather apparent.

Another condition of the ethmoid not unfamiliar to most of us, but until recently not definitely described, is that to which Dr. Dowling has applied the very appropriate term "latent ethmoiditis" or "residual sinus infection."

This includes many cases of catarrhal or suppurative disease in which the symptoms have nearly or quite subsided but the case does not get well. There may be a scanty discharge of a mucopurulent character from the region of the anterior or posterior cells (the latter are most likely to be affected) which is observed only periodically, or there may be none at all. The patient complains of frequent "colds in the head" which come on rather suddenly and last only a few hours or perhaps a day. There is a sensation of stuffiness on the affected side and sometimes a watery discharge. Periodical headaches, mental depression, lack of energy, inability to concentrate the mind and various ocular disturbances are among the prominent manifestations.

Many of these cases are unsuspected, the symptoms being attributed to malaria, neurasthenia, etc.

It is my belief that in these cases we have to deal with a form of toxemia the elements of which develop in the accessory sinuses and are transmitted to the brain and nerve centers either thru the medium of the blood or lymphatics. It may be that the closed cysts heretofore mentioned are more frequently present than we have supposed, as in

both cases there is rarely enough local disturbance to warrant operative treatment.

Treatment.—In looking over the literature I have been impressed by the different meanings of the term "cure" in the minds of various writers on this subject. One case of so-called recurrent sinusitis was "cured" three times within three months. It will be quite obvious that the number of "cures" one places to his credit will depend on how frequently he cures the same case.

The treatment of acute ethmoiditis was briefly outlined above. In the chronic forms of ethmoiditis the problem is somewhat more complicated as we have not only to secure good drainage but to deal with tissue changes by which the lining of the cells has been to some extent transformed into pyogenic membranes or raw surfaces covered with exuberant granulations or, in the milder forms, with a chronically inflamed and thickened membrane.

Free drainage and access to the diseased cells is the first essential, as is equally true in the treatment of an abscess cavity in any part of the body.

If the anterior group of cells only are involved the removal of the anterior half of the middle turbinate close to its point of attachment is the first step, after which the cells should be scraped out with a spoon curette and, if extensively diseased, the bony septa had better be broken down so as to form one cavity. In recent cases daily cleansing with a normal salt solution will often be all that is required, altho I make it a routine practice to pack the cavity every second day with an argyrol tampon until the pus entirely disappears. If granulations appear it may be necessary to apply a saturated solution of nitrate of silver at intervals of three or four days. Formidine, either in the powder or in oil, is useful in stimulating the process of healing. Where the posterior cells are involved as well, it is better to remove the anterior two-thirds of the middle turbinate and curette in the same way, removing as much as possible of the polypoid or granulation tissue. It is seldom possible to do this effectively at the first sitting and often several curetings will be required if the disease is of long standing.

It must be borne in mind that operative procedure on the ethmoid cells involves a considerable element of danger. The anterior cells extend up very closely to the cribriform plate, but if the curette be inserted and carried backward along the line of the turbinate and then turned and drawn downward and forward the danger will be much

lessened. In operating on the posterior cells the greatest point of danger is the orbital wall; when any force is required it will be wise to exert it in the downward direction away from the orbit.

While some cases yield promptly to treatment in others the after treatment is liable to be prolonged by the growth of exuberant granulations and the formation of little cavities and sulci that drain imperfectly.

It is well to be somewhat cautious about pronouncing a case "cured" and to let several weeks elapse after the disappearance of the discharge before feeling assured of success. In subacute and the more recent cases of chronic ethmoiditis I have had some very satisfactory results from the use of argyrol in the manner suggested by Dr. Dowling.

55 East 55th Street.

Education should train one, in youth, to:

- (1) Observe accurately;
- (2) Record correctly;
- (3) Compare, group, and infer justly; and
- (4) Express cogently the results of these mental operations.—

Prest. Eliot.

For Toxic (Tobacco) Amblyopia. Waele has used lecithin with better results than those obtained by other methods of treatment.—*Acad. de Méd., Bruxelles*, 28 Janv., 1911, and *Soc. Belge d'Opht.*, 14 Mar., 1911.

Uranine colors the aqueous greenish—fluorescence—in cases of tuberculous iritis, iridocyclitis and hypopyon ulcer, but not in the normal eye.—*Soc. Belge d'Ophtalm.*, 14 Mar., 1911.

HISTOPATHOLOGY OF THE ETHMOIDAL LABYRINTH.

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SINCE Prof. Emil Zuckerhandl¹ in 1882 published his work on The Normal and Pathological Anatomy of the Nose and Accessory Sinuses, the earliest thoro treatise on this subject affording us an excellent working foundation, rhinologists have made steady and practical progress in the study of these intricate, deeply located and pathologically important regions.

We would like to give a full resumé of the subject, as the various observations and theories are so interesting and occasionally diversely contradictory in the evolution of our knowledge of today, but our time limit and your patience would interdict; therefore we will attempt to give only the present consensus of opinion of students in this field.

The gross anatomy of the lateral bodies of the ethmoid is familiar to us all. Altho the latest investigators believe that these cavities never communicate one with another, or that such is a rare exception, still they have been divided into two groups—the anterior and posterior—for practical reasons. The anterior group comprising about two-thirds of the cubic space of each ethmoid body, is situated below and in front of a plane extending laterally from the line of origin of the middle turbinal and they open into the middle meatus, the nasofrontal duct, infundibulum and turbinal fossa; while the posterior group—the remaining third—lie above and posterior to the plane above mentioned and open into the superior meatus and olfactory crypt.

Frequently regular pneumatic cell cavities are situated in front of the nasofrontal duct and infundibulum, their walls being formed by the articulation of the ethmoid bone with the frontal and nasal process of the superior maxilla or they have even been found, I think, by Lothrop² between the ethmoid bone and lachrymal and nasal bones. By some these anterior cavities are denominated frontal bullæ; but as they possess the characteristics observed by Uffenorde, we believe they should rather be included with the ethmoidal cells. Conversely the cavities frequently found in the smaller wing of the sphenoid, on ac-

count of their usually being larger and not resembling the ethmoids, we think are better named accessory sphenoidal sinuses.

The division of these cells into the anterior and posterior group is a practical one because not infrequently one group will be diseased while the other is not; the anterior group is usually diseased in conjunction with frontal sinusitis, and the posterior with sphenoidal trouble.

These cells are lined with periosteum and mucous membrane which, as Uffenorde³ says, are so intimately connected as to practically form an anatomical unit. The membranous portion of this lining, according to Fraser⁴ "consists of two layers—superficial epithelial and submucous connective tissue, separated by a very delicate basement membrane," the latter scarcely discernible; the deeper layer of the epithelium is composed of cuboidal cells and the surface of ciliated cylindrical. Goetjes⁵ notes that there is no basement membrane, and also the absence of the round cell, infiltration in the submucous tissue which is normally found in the similar tissue of the nasal cavities, antrum and sphenoid. Eschweil⁶ mentions the loose composition of this structure. As early as 1897, Kahn¹³ noted the edematous character of the submucous tissue in one of his cases. These last three histological differences in the writer's opinion account for the pathological difference between the ethmoid and other accessory sinuses, as first suggested by Uffenorde.

The blood supply is derived from the anterior and posterior ethmoid arteries, branches of the ophthalmic.⁷ Within the cells the blood vessels lie in the periosteum⁶; these supply branches to the subjacent bone⁴, and it has been microscopically demonstrated by Shamborg⁸, Killian⁹ and others that the dura and orbital periosteum in like manner supply vessels to the bone between them and the sinuses. As this latter author says, it is only reasonable to suppose that they communicate within the osseous tissue.

The veins find exit along the above mentioned arteries. Because the nasal mucoperiosteum of the medial boundary wall of this labyrinth is always inflamed when the ethmoidal cells are diseased, we need also to note that the veins from said nasal mucoperiosteum pass thru the cribriform plate and empty into the longitudinal sinus.⁷

The lymph vessels of the cells per se empty into the postpharyngeal gland, internal maxillary, parotid and superior deep cervical lymphatic

glands, while the lymphatics from the special region just above mentioned "communicate with the intracranial lymphatics and the subdural space."⁷

In the most recent minute experiments, Shamborg⁸ by injection of the lymphatics of the embryo showed that the vessels of the ethmoid communicated with those of the orbital and cerebral cavities. On the other hand, Andre¹⁰, by similar previously made experiments upon subjects 5 and 8 years of age, demonstrated no such communication. And Grunwald,¹¹ using an adult subject recently killed by accident, even with the existence of a dehiscence in one os planum, confirmed the latter's findings.

The contradictory conclusions of such competent observers we think may be explained by the greater friability of the tissue of the embryo allowing the injection to be forced out of the lymphatic vessels into the surrounding tissue; and the weight of evidence is with Andre and Grunwald that no lymphatic channels pierce the bony walls between the ethmoid and the cerebral or orbital cavities.

Recognizing the invariable co-existence of inflammation of the nasal mucosa covering the ethmoidal body with disease within, the extension of disease from the ethmoid to meninges, etc., may be carried directly by either the veins or lymphatics of this intermediately inflamed nasal mucosa as well as by the very probable anastomosis of the blood vessels in the intervening osseous walls; communication with the orbital cavity can only obtain by way of the veins or arteries in the form of a phlebitis or arteritis.

Altho all of us specialists have been studying the diseases of these sinuses, to Wilhelm Meyer we were indebted years ago for demonstrating the importance of diseased adenoids, etc., so now in like manner we are indebted to Uffenorde for demonstrating in his scholarly treatise on ethmoiditis in 1907, that pathological change in these cells is one of the most if not the most prolific etiological factor in diseases of the nares. During the last year or two their deleterious effect on the adjacent tissues or organs—*i. e.*, orbital and aural—are being gradually appreciated. His conclusions have been endorsed by several eminent rhinologists.

This author, on account of the morphological differences in the structure of these cells, considers them and their diseased states very different from the other sinuses, comparing them to a sponge while

denominating the others true cavities. This is apparently due on the one hand to their minute ostea and to the exceedingly loose and fragile (succulent) texture of their lining membrane, which, according to the latest histologic research, lacks a basement membrane; on the other hand, their location exposes them to the admission of noxæ from the respiratory currents and predisposes to retention (because of narrowness of upper nasal regions).

In other words, these cells apparently are capable of receiving the serum, leucocytes, etc., from their blood supply more rapidly than the products of such are carried off by their veins or lymphatics or thrown out of their ostea as mucus. For these reasons they are more prone to become diseased than the nasal cavities per se or the other accessory chambers.

He divides the diseases of the ethmoid into

1. Acute inflammation.
2. Chronic inflammation.
 - a. Ethmoiditis hyperplastica cum polyposis.
 - b. Ethmoiditis suppurativa.

Skillern¹² recognizes a third subdivision of the chronic type—namely—hyperplastic ethmoiditis *without* polypi. The latter also mentions that the acute inflammation may be either suppurative or nonsuppurative.

In acute inflammation the microscopic evidence is a more or less edematous swelling not only of the mucoperiosteal lining of the cells but also of that covering the bulla ethmoidalis, the uncinate process and medial surface of the ethmoidal labyrinth. These latter are the most characteristic objective signs for diagnosis of this as well as of the chronic form. Occasionally the mucosa may even assume a polypoid character.

Microscopically the arterial and venous capillaries of the endosteum and periosteum are greatly engorged—even subepithelial hemorrhages supervene—while the surface epithelium is disintegrated.

The acute catarrhal variety may be caused by any factor causing increased blood supply, such as contraction of the surface capillaries of the head throwing the blood to those tissues, etc., or obstruction of their outlets, as plugging of the nares for epistaxis; while the purulent variety is usually a sequela of the infectious diseases—influenza, measles, scarlet fever, diphtheria, etc.

In the chronic form the histological changes are more varied; in both forms the cilia of the columnar epithelia are absent, surface epithelium is far more disintegrated, the basement membrane is more discernible and the submucous tissue is much thickened.

In the hyperplastic without polypi the submucous thickening takes the form of an edematous infiltration, and in hyperplastic with polypi the process progresses so that serum exudes into spaces in the delicate connective tissue network. These two forms—hyperplastic without and with polyposis—apparently are merely differences in degree, intensity or stage of the same process. In the suppurative there is a faint fibrous deposit in place of the almost imperceptible basement membrane, a small cell infiltration, and finally the necrosis or ulceration of the tissue supervenes to a greater or less degree. Oppikoff¹⁴ found this extending to the bone, but Fraser not deeper than basement membrane, and Grunwald found the bone diseased in 60 per cent. of his ethmoidal cases.

The chronic form is caused by frequent or continuous irritation (*e. g.*, dust either from a factory or the alkaline dust of the western plains), repeated coryzas, influenza, etc., and in addition, in order to assume suppurative form there need to be infection by some noxæ as the pneumococci, streptococci or staphylococci or some bacilli, as those of diphtheria, etc.

Hajek believes that inflammation extends from one cell to another thru the bony walls, because the mucous membrane, periosteum and bone are so intimately connected that they practically form one anatomical unit.

The practical objective sign of the hyperplastic without polyposis is the peculiar edematous or boggy swelling recognized by probing of the mucosa covering the middle turbinal, bulla ethmoidalis, uncinate process and lateral wall of the ethmoidal body.

Uffenorde found that both atrophic and hypertrophic changes are caused by ethmoiditis—the discharge from the nonsuppurative form causing hyperplasia of the nasal tissues into which it came in contact—hyperplastic rhinitis; and conversely, the product of the suppurative form produces atrophy of the tissues over which it flows—atrophic rhinitis.

In conclusion we will copy in full the tables of differentiation—macroscopic and microscopic—given by Dr. Skillern¹² on account of their great practicability, as also the conclusions drawn by Uffenorde:

Chronic Hypertrophic Ethmoiditis.

Secretion clear and watery.
 Inferior turbinal hypertrophied.
 Never crust formation.
 Headache most prominent symptom.
 Ophthalmic manifestations due to pressure of hypertrophic mucous membrane on vessels.
 Gastric disturbances absent.
 Neurasthenic symptoms predominate.

Chronic Purulent Ethmoiditis.

Secretion purulent.
 Inferior turbinal atrophied.
 Always crust formation.
 Headache often light or absent.
 Ophthalmic manifestations due to infection from purulent secretion.
 Gastric disturbances frequent.
 Neurasthenic symptoms not marked if flow of secretion be free.

Hyperplastic type.

1. Metaplasia of ciliated epithelium into squamous only when parts have come into contact with other structures.
2. Meshes of subepithelial tissue dilated.
3. Round cell infiltration scanty.
4. Glands hypertrophied primarily.
5. Reabsorption changes in bone predominate.

Suppurative Type.

1. General metaplasia when secretion has come in contact with mucous membrane.
2. Subepithelial connective tissue fibrous formation.
3. Round celled infiltration well marked.
4. Glands primarily atrophied.
5. Apposition of bone predominates.

It generally begins on the outer surface of the medial ethmoid wall.

Uffenorde's conclusions are:

- "1. Process is progressive and extends from surface toward bone.
2. It is not always possible to differentiate histologically between polypoid swelling and polyp formation, as both may involve the deeper structures. Usually polyp development is the more chronic, and is more often associated with bone disease.
3. Neither the polypoid swelling nor the polyp are factors in bone involvement. This is simply a result of the chronic inflammation.

4. The changes in bone seem to take place more readily in the delicate wall of the ethmoid labyrinth than in the middle turbinal.

5. The inflammation may extend from one part of the membrane to another thru the bone itself as well as thru the openings in the same. It generally begins on the outer surface of the medial ethmoid wall.

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CASES WHERE GLASSES ALONE FAIL TO BRING EXPECTED RELIEF.*

JAMES A. CAMPBELL, M. D.,

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IT is now generally understood and admitted by the profession, and the people at large, that pain in and about the eyes, headaches, neuralgic conditions and many other forms of nervous reflex trouble are often relieved by a properly fitted pair of glasses; and there is apt to be a general sense of disappointment, complaint and criticism when, in spite of perfect vision obtained with the glasses, much discomfort still remains.

It is to a brief review of some of the possible causes and an explanation of the same that I wish to speak.

Perfect vision depends primarily upon the distinctness of the retinal image of objects looked at. This is the result of a series of conditions, any break in the chain preventing clearness of definition or distinctness will necessarily prevent good vision. It presupposes a clear cornea, lens, aqueous and vitreous fluids, a normal iris, retina, chorioid and optic nerve, etc. When these are normal, and likewise the muscles of accommodation, or focusing apparatus, then vision is normal as far as visual accuracy is concerned.

Presuming the above to be present, still discomfort may arise owing to an inability of the two eyes to act together harmoniously. When we look at an object or a word, as in reading, both eyes are fixed on that object or word; this is brought about by the combined action of the recti and oblique muscles. Any irregularity in this action interferes with what is known as the equilibrium of fixation and much distress will follow. This is frequently a source of discomfort and is known as heterophoria, of which there are several forms.

The function of accommodation, which enables us to see things at different distances, may be involved in two distinct and opposite ways. It may be too weak, thus limiting its range of action, tiring quickly; or it may be affected by a spasmodic action, which is annoying. These

*Presented before the Missouri Homœopathic Association.

muscular abnormalities are usually the result of a general lowering of vitality, which is associated with a long list of ills, anemia, chlorosis, lithemia, rheumatism or any other of the various forms of constitution functional variations.

Then too there are the diseases of the inner eye and its tissues which are found associated with albuminuria, venereal diseases, arteriosclerosis (the first symptoms of which can often be detected in the eye fundus), tubercular involvement as well as gouty and diabetic manifestations.

Again the injurious influences of constitutional poisons, as tobacco, lead, wood alcohol and cinchonism, bisulphide of carbon and many others which might be given.

Nor can we forget to have in mind the long list of nervous reflex irritations which may involve the eye in womankind from disordered pelvic organs.

Dental and nasal reflex irritation and diseases of the accessory nasal sinuses can not be overlooked as possible causes for ocular involvement.

Then the various diseases of the optic nerve itself, such as optic neuritis, glaucoma or atrophy. These conditions, in their early stage may cause much discomfort altho the glasses give fair vision.

From this list of possible complications, and many more which might be given, it will be seen that one must be more than an optician to properly cope with the important branch of glass fitting; and it will also explain, I trust, why glasses alone often fail to bring the expected relief.

Iridodialysis Which Disappeared. A gentleman when out shooting received a blow on the eye from a No. 4 shot. Examination showed that there was iridodialysis, hyperemia, conjunctival ecchymosis, a wound of the eyelid, but no perforation of the sclerotic or cornea. The intraocular blood gradually absorbed, and *pari passu* the tear of the iris became smaller and smaller until ultimately it disappeared, and left a perfectly normal and mobile pupil. The author desires to add this case to two others, which show that one may hope for a return to the normal in cases of traumatic iridodialysis where the foreign body has not penetrated.—*Abstr.*, Aug., 1911, *Ophthalmoscope*.

SOCIETIES.

PROCEEDINGS OF THE TWENTY-FOURTH ANNUAL MEETING OF THE
AMERICAN HOMŒOPATHIC OPHTHALMOLOGICAL, OTOLOGICAL AND
LARYNGOLOGICAL SOCIETY, NARRAGANSETT PIER, RHODE ISLAND,
JUNE 26-30, 1911, IN THE MUSIC ROOM OF THE IMPERIAL
HOTEL.

President Burton Haseltine called the first session to order at 3:30 P. M., Tuesday afternoon.

The following committees were appointed:

On Attendance: J. R. McCleary, Wm. McLean.

On Nominations: All former presidents of the society present at this meeting.

On Press: A. E. Cross, D. W. Myers.

R. S. COPELAND: I move that the President's Address be made a special order of business for 4:30 this afternoon but that otherwise the program as printed be adopted as the order of business. Seconded.

A. E. CROSS: If that motion is passed, it would mean that we would have to go right along reading papers and discussions whether the authors and discussers are present or not.

PRESIDENT HASELTINE: It has usually been the rule that the papers of which the writers were present were read first and afterward, if there were time, the papers of others. You will notice that there has been no provision made in the program for the informal smoker that we have had in former years. That is a matter that may be decided later.

SECRETARY MYERS: In arranging the program I made no provision for a smoker—not only because we had abundance of material to read but also because we wanted to leave time for members, who are so inclined, to attend the Institute meetings and social functions.

DR. WELLS: I move as an amendment to the last section of Dr. Copeland's motion that papers whose authors are present be read first, then if time permits, papers whose authors are absent but whose discussions are present. Seconded.

DR. COPELAND: I accept that amendment. Voted.

DR. WELLS: The matter of the smoker can be left to the discretion of the chair.

THE PRESIDENT: The chair rules that smoking is allowed at the evening sessions.

DR. WELLS: I am not sure whether we have adopted the program as the order of business or not; to make sure I move that the program, as amended, be adopted as the order of proceeding of this meeting. Seconded. Carried.

G. W. Mackenzie, Second Vice-President, was called to the chair while the president read his paper, entitled Catgut Balls, it being the only paper whose author was present. In the

Symposium: Enucleation and Its Substitutes. Discussion by C. C. Collier read by the secretary. General discussion by Drs. Mackenzie, Suffa, George, Wells, Nagle and Haseltine.

Symposium: Strabismus, Edgar J. George, Chairman.

DR. GEORGE: I would like the privilege of reading the first paper of the symposium altho the author is absent, because it is introductory to the whole subject.

Moved, seconded and carried that the adopted order of business (the program) be suspended until paper No. 3 has been read.

Paper No. 3, Etiology of Strabismus, by John L. Moffat; read by the secretary.

Paper No. 4, Nonsurgical Treatment of Strabismus, by Geo. A. Shepard.

Paper No. 5, Surgical Treatment of Strabismus, by Geo. A. Suffa.

On motion, Dr. Suffa's time was extended that he might show on the screen his illustrations of the extrinsic eye muscles, scissors, tenometer, myometer, graduated forceps and adjustor and to give a summary of his paper.

Discussion by Dr. George (written) and by Drs. Muncy, Copeland, Brooks, Wells, Mackenzie, Cross, Shepard and Suffa.

First Vice-President E. D. Brooks was called to the chair while Dr. Haseltine read his President's Address.

On motion, the First Vice-President appointed Drs. D. W. Wells, A. W. Palmer and W. H. Phillips a committee of three on the President's Address.

Symposium: Pathology of the Eye, Frank O. Nagle, Chairman.

Paper No. 7, Treatment of Interstitial Keratitis, W. M. Speakman, read by title.

Paper No. 6, Complications of Interstitial Keratitis, Frank O. Nagle.

Discussion by H. S. Weaver (written), and general discussion by Drs. Copeland, Haseltine, Mackenzie, Raiguel, Shepard and Nagle.

G. W. MACKENZIE: The hour is late and out of deference to Dr. Nagle I think that he should be given a more favorable time. I move that his paper on Histopathology of the Optic Nerve be read as the first paper of the next session.

THE PRESIDENT: That is out of order. How long, Dr. Nagle, will it take to read your paper.

FRANK O. NAGLE: About half an hour.

DR. MACKENZIE: I do not think that it is justice to the doctor to cut him out entirely from lack of time. I think that we should give him every possible concession as he has taken trouble to be here and to prepare a paper. I move that we hold a special session right after the business session of the Institute tomorrow to hear his paper, and that it be announced from the platform of the Institute.

A. E. CROSS: Gentlemen, we are making a mistake. We have three-quarters of an hour before dinner with nothing special to do; it would be far better to have this paper now, than to have a special session for the purpose with no guarantee that there would be anybody present.

D. W. WELLS: I would like to say that I am in accordance with what Dr. Cross says. Those who are interested in the subject would stay now to hear it and it would be a larger audience than we could get at a special session. I move as a substitute to Dr. Mackenzie's motion that this session go on and we hear Dr. Nagle's paper now. Seconded.

THE PRESIDENT: All those who are willing to remain and hear this paper now please rise; nobody should rise who does not intend to stay. Carried.

Paper No. 8, The Histopathology of the Optic Nerve, Frank O. Nagle.

Adjourned.

SECOND SESSION—TUESDAY, JUNE 27TH—8:00 TO 10:00 P. M.

Symposium: Blood Pressure, Royal S. Copeland, Chairman.

Paper No. 9, Blood Pressure From the Standpoint of the Physiologist and Pathologist, by Geo. F. Laidlaw.

Paper No. 10, The Sphygmomanometer in Practice, With Interpretation of Its Readings, by Harrison G. Sloat. Exhibition of Janeway's, Focht's and the Tycos instruments.

Paper No. 11, The Relationship Between Blood Pressure and Diseases of the Throat, by Alonzo C. Tenney.

Paper No. 12, Blood Pressure as a Factor in Eye Diseases, by Royal S. Copeland.

General discussion by Drs. Schenck, Shepard, Wells, Mackenzie, Haseltine, Sloat and Copeland.

E. D. BROOKS: I move a rising vote of thanks be extended to the nonmembers who have contributed to this symposium, and that the Secretary be innstructed to convey the same to them. Seconded, and carried unanimously.

DR. WELLS: In view of the fact that our official journal has changed its name, it becomes necessary to make the change in title wherever it is mentioned in the standing resolutions. I move that the standing resolutions be amended so that wherever the words HOMŒOPATHIC EYE, EAR AND THROAT JOURNAL occur the words JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY AND LARYNGOLOGY be substituted. Seconded. Carried.

THE PRESIDENT: Gentlemen, the hour is late but according to the rule adopted we shall either have to go on with the program or omit the symposium set down for tonight. The symposium on Bronchoscopy will be taken care of at the session in Boston on Saturday. It is the other—the symposium on Diseases of the Ethmoids that I refer to; Dr. Dowling, the Chairman, will be unable to be here at all.

DR. BROOKS: I move that we proceed with our program as published. Seconded.

W. H. PHILLIPS: There are only a few present now, the hour is very late. Most of us are too tired to listen to any more papers tonight. I move as a substiute that we hold a special session tomorrow morning at 9 o'clock to hear the papers of this symposium. Seconded. Carried.

DR. MACKENZIE: That is the very point that I was ruled out of order for trying to make.

THE PRESIDENT: No, sir, it is not; you wanted to put the last paper of one symposium on as the first paper of the next symposium, which was out of order in view of the rule adopted of carrying out the program as printed. This motion does not do that; it calls for an extra session which is quite a different thing. Adjourned.

SPECIAL SESSION—JUNE 28TH—9:00 A. M.

Symposium: Diseases of the Ethmoid, J. I. Dowling, Chairman.

THE PRESIDENT appointed Irving Townsend chairman in place of Dr. Dowling.

Paper No. 15, Ethmoiditis, by Irving Townsend.

Paper No. 16, The Histopathology of the Ethmoid, by A. Worral Palmer.

Dr. Dowling's discussion read by the Secretary.

SECRETARY MYERS: I have in my hand another paper written by Dr. A. W. Palmer on Nasal Sinusitis. I think he will be glad to read it if the society has time and wishes to hear it.

DR. MACKENZIE: I move that Dr. Palmer be requested to read this paper. Seconded. Carried.

Paper No. 16½, Nasal Sinusitis, by A. W. Palmer.

General discussion by Drs. Foster, Phillips, Townsend, Mackenzie, Haseltine, A. W. Palmer, Myers and Weaver.

THIRD SESSION—WEDNESDAY, JUNE 28TH—2:30 TO 6:00 P. M.

SECRETARY'S REPORT.

The usual business of the office of secretary has been performed during the year. Some delays have been experienced along the line, particularly in the publication of the transactions in the JOURNAL, due largely to the inexperience of your secretary. The issuing of the transactions in book form, however, occurred probably about as early as we may expect under our present arrangement. This year we were able to deliver them about the middle of April. Next year our journal editors hope to publish the papers more rapidly and finish them in the March issue of the JOURNAL which will permit the delivery of the transactions at least a month earlier.

A conference of your president and secretary resulted in a decision to modify the scheme of the program this year and we have presented, for your criticism, one made up largely of symposiums upon various topics. It is hoped the plan will prove satisfactory. Formal discussions have been omitted, largely because of the fact that many of the symposiums will assume the form of discussions of the various phases of the conditions dealt with and it was thought advisable to read all of these papers and then open the symposium to informal discussion. Where the authors of papers have requested that certain individuals discuss their topics the program has been so arranged. The program has been extended over the entire week purposely so that our members may attend all of the business sessions and social features of the Institute.

As is well known it is difficult for the secretary to secure copies of the papers sufficiently in advance to present them to the men who

have been appointed to discuss them. Numerous letters were written requesting that papers be sent in, but to many of these no replies were received. If the rule had been enforced, that papers received later than April 1st could not appear on the program, we would have had hardly a half dozen for our consideration at this meeting. It was also exceedingly difficult to obtain abstracts sufficiently in advance to permit their publication in the JOURNAL before the meeting and the reprints, herewith presented, of such abstracts will be found to contain synopses of only a portion of the papers appearing on the program. No doubt this has been the experience of former secretaries. I would recommend that the printing of abstracts be done away with. As published at present the procedure only adds to the expense of the society and furnishes very little of real value.

For any errors that may be found in the program your secretary begs your indulgence.

With thanks to those who have co-operated in the development of the program and in the work of the year this report is respectfully submitted.

DEAN W. MYERS, *Secretary*.

In returning the abbreviations to the membership list some errors have crept in, and your corrections are asked that the specialties indicated may be made correct.

DR. WELLS: I move that this report be adopted with the exception of the abolition of the abstracts of the papers. I have been one who strongly advocated a certain definite time for the sending in of papers. The statement that they do not come in in the time specified does not do away with the fact that it would be an improvement if the rule could be enforced. I am very sorry to have the idea of making an abstract of papers offered done away with. The abstract is certainly a valuable notice in advance of what the paper is to be about; it is also useful as a reminder of the meeting and stimulates interest in it. I hope that it will be continued. I do not like the adoption of that part of the report.

SECRETARY MYERS: The recommendation that the abstracts of papers be discontinued was not to save the secretary work but was suggested because of the actual difficulty experienced in getting them all in in time. Unless we can get all of the abstracts before the stated time, it is hardly worth while to go to the expense of publishing any of them.

PRESIDENT HASELTINE: What was the cost of printing the abstracts?

TREASURER CROSS: The expense this year was \$8.00; last year it was \$9.50.

THE SECRETARY: We usually have enough printed to give one to each member; one hundred copies would be enough. That would reduce the expense somewhat.

A. B. NORTON: The amount of expense is a small matter—not worth considering. The abstracts fulfil a use that is very much more valuable than \$8.00. I second Dr. Wells' motion.

THE PRESIDENT: The motion is that the secretary's report be adopted except as to the recommendation that we do away with the abstracts. Carried.

TREASURER'S REPORT.

June 23d, 1911.

RECEIPTS.

Reported balance on hand, Chicago, June, 1910,	\$532.43
New members, initiation and dues,	55.00
Dues, old members,	471.00
	<hr/>
Total receipts,	\$1,058.43

EXPENDITURES.

J. B. S. King, official stenographer,	\$100.00
W. L. Bywater, expenses of the Secretary,	57.71
Chas. L. Clark, printing for the Treasurer,	8.25
Achey & Gorrecht, issue and delivery of Transactions, printing lists and abstracts, 1909-1910,	223.67
Achey & Gorrecht, same for year 1910-1911,	206.83
Expenses of the Treasurer, 1910-1911,	29.20
	<hr/>
Total expenditures,	\$625.66
Balance on hand,	432.77
	<hr/>
	\$1,058.43

Assets:

Cash on hand,	\$432.77
Dues in arrears,	272.00
	<hr/>
Total,	\$704.77

Liabilities:

Printing account for year including expenses of President and Secretary for 1910-1911,	\$97.35
Journal of Ophthalmology, Otology and Laryn- gology,	20.00
	<hr/>
	\$117.35
Excess of Assets over Liabilities,	\$587.42
Total membership,	202
Resignations to present,	6
Members in arrears,	59
Back dues owing,	\$272.00
Six members owing each,	9.00
Twenty members owing,	6.00
Thirty-three members owing,	3.00
Members in good standing, June, 1911,	190
Respectfully submitted,	

ALBERT E. CROSS,
Treasurer.

THE PRESIDENT appointed Drs. Hallett and Weaver as Auditing Committee.

THE SECRETARY: This society has no necrologist; there should be one in our list of officers. Two members have died this year, a number have died in past years and we have taken no official notice of their passing. It would be well to have a permanent necrologist and I move that a necrologist be appointed. Seconded.

DR. NORTON: I move as substitute that the chair appoint a necrologist for this year and notice be given of a change in the constitution providing for such an officer. Seconded. Carried.

REPORT OF JOURNAL COMMITTEE.

The committee appointed last year to continue the conference with the publishers of our official organ with a view to sending a copy to each member, subscription to be paid for by the society, and the dues raised sufficiently to cover the expense thus incurred, begs leave to report.

Somewhat extended correspondence with the postal authorities shows conclusively that a journal cannot be entered as second class matter unless the bill to the member be itemized into "dues" and "subscription to journal," showing that he is a voluntary subscriber. Feel-

ing that this would defeat the whole purpose of insuring the reception of the JOURNAL by every member, your committee recommends:

That the present arrangement of sending to nonsubscribing members those issues of the JOURNAL which contain official communications be continued.

Committee,

DAVID W. WELLS, *Chairman*;

A. WORRALL PALMER,

ALBERT E. CROSS,

DEAN W. MYERS,

G. DEWAYNE HALLETT,

HERBERT D. SCHENCK.

DR. WELLS: The correspondence with the Postmaster General brought out certain points. We put to him the question why can not we do as the American Medical Association does? We were informed that the fact that the American Medical Association is acting against the law has been brought to the notice of the postal authorities and will be attended to. There will probably be some change made in the postal regulations by which there will be made some concessions to scientific societies.

The adoption of the report was moved, seconded and carried.

The First Vice-President was called to the chair and received the

REPORT OF THE COMMITTEE ON PRESIDENT'S ADDRESS.

Each member of the committee has carefully read the scholarly address of our president. The recommendations have been considered in conference and will be taken up separately.

First. The suggestion "that this society adopt an educational entrance requirement preferably on the thesis plan" has much to commend it and would undoubtedly raise the standard of our membership, but by part of the committee it is feared that many desirable men might be deterred from applying by the dread of submitting to this ordeal.

Second. "Urging on licensing boards the acceptance of the fifth hospital or clinical year in lieu of examination for admission to practice" is in the opinion of your committee a subject which properly belongs to the Council on Medical Education. It would require of the licensing boards a knowledge and control of internship in hospitals which is opposed to the present conception of the function of the

board, as an unbiased tribunal not affiliated in any way with medical schools.

A fifth, hospital, year is very desirable; at present it is optional in some schools, and in the natural course of events may become obligatory.

The third suggestion, that the society "take up the question of proper preparation for special practice with a view to outlining various courses of training for prospective students" meets with our unanimous and hearty approval. We feel that this should be done after a thoro investigation of opportunities offered in the various medical centers of this country.

That until such investigation has been made, prospective specialists should be advised to attend the New York Ophthalmic as this is the only institution offering a systematic graded course in our specialty.

To the end that this advice be intelligent and trustworthy it is recommended that a committee of four or more be appointed of which President Haseltine shall be chairman, and that the other appointees, selected by the chairman, shall represent the various medical centers of this country.

The undersigned recommend that at our next annual meeting this committee shall submit a concise report which, if adopted by the society, shall be printed in circular form, in sufficient numbers, so that several copies may be at the disposal of each member.

That this committee shall also consider suggestions one and two, and that any action taken by the society in regard to securing the acceptance of the fifth hospital year by the licensing board in lieu of examination shall be forwarded to the Council of Medical Education of the American Institute of Homœopathy.

DAVID W. WELLS,
WILLIAM H. PHILLIPS,
A. WORRALL PALMER.

Adopted on motion of A. B. Norton.

REPORT OF COMMITTEE ON DRUG PROVING.

On behalf of the Committee on Drug Proving this final report is presented. It is a financial report and will cover the expense of the test drug proving of belladonna made by this society, with the aid and co-operation of its loyal friends in the profession, and also the expense of publishing the results obtained in a manner befitting their importance.

The O., O. and L. Proving.*Expense:*

Materials—paper for proving forms, mimeograph supplies, etc.	\$86.02
Typewriting	92.50
Clerical work	91.00
Tincture	15.79
Analysis of tincture	5.00
Distributing forms and tincture	41.11
Animal experimentation	50.65
Postage	11.04
Total	<hr/> \$393.11

Receipts:

HOMŒOPATHIC EYE, EAR AND THROAT JOURNAL	\$50.00
American Institute of Homœopathy	300.00
Massachusetts appropriation, balance	21.84
Deficit—paid by director	21.27
Total	<hr/> \$393.11

The O., O. and L. Book.*Expense:*

Preparing	\$802.91
Making	2,035.78
Advertising	765.43
Distributing	393.69
Storing and insuring	40.65
Total	<hr/> \$4,038.46

Receipts:

Subscribers, 362 copies	\$1,811.66
Institute of Drug Proving, 150 copies to libraries, etc... ..	750.00
O., O. and L. Society, 119 copies to provers	100.00
Director, 30 copies reserved	150.00
Sales by Boericke & Tafel, 14 copies	49.50
Deficit—paid by director	1,177.30
Total	<hr/> \$4,038.46

Copies printed	1,000
List above	675
Copies to editors	38
Copies on hand	287

1,000

It is now my pleasure to hand to our secretary the copyright of this book, and to present to the society these 287 copies which remain unsold. Of course the disposition of these volumes rests entirely with the society, but I would like to offer the suggestion that our secretary obtain each year from the deans, or from the professors of materia medica, of our various homœopathic colleges, a list of the students who have participated in practical drug proving and have shown a genuine interest in this work during the year, and that copies of our book be annually distributed by him, in the name of this society, to such meritorious students.

Respectfully submitted,

HOWARD P. BELLOW, *Director*.

H. P. BELLOW (after reading the above): I take pleasure in donating these two hundred volumes to the society, and think they may be made to serve a valuable purpose. I would like to suggest that the secretary ascertain, either from the deans or from the professors of materia medica of our various colleges, the name or names of students who have shown a special interest in materia medica or who have been willing to subject themselves to the loss of time and possible sickness by taking part in a drug proving, and donate to any one or all such deserving students one of these volumes; it is a very fitting present that would be appreciated by such men. In their hands it is likely to bear fruit. However, I donate the books without limitation of any kind and simply offer this as a suggestion.

REPORT OF COMMITTEE ON DRUG PROVING.

H. D. SCHENCK: I move the adoption of this report; all the members of the committee realized fully the zeal with which the director of the proving had gone into the work, but the members of this society have hardly realized what a debt of gratitude we owe to Dr. Bellows for this proving, which he has always referred to as being under the auspices of this society. The industry, the devotion, the sacrifice of time and health and the financial loss that our director has

put into this work can never be repaid. Since this proving was started I have never failed to ask him about the cost whenever I have had a chance but he has never given me an answer until I received this report last night. I then found out that \$1,200.00 of his money had been spent in this work; that does not represent the days and nights of labor that cost him his health and wrecked his business for a time. I think this society is certainly under obligation to wipe the financial part of this debt off the books by reimbursing Dr. Bellows the amount spent in it. As I said before, this society has always been generously credited with having the proving under its auspices and it is my feeling that while we have not the money now, it is a matter of simple justice, all things considered, that we should foot the bills for this proving. It should be done as soon as we can do it. I think that we can appropriate \$300.00 now for that purpose. I am going to ask Dr. Bellows if he will permit us to go further than that and allow us to send to the members of this society and of the American Institute a circular stating that this society has printed 1,000 copies of this valuable work and that we are in debt for it and want their help. Many would take additional copies to help out and would probably use them as gifts to students. I spoke of the subject to a number of members of the American Institute and without exception they offered to take extra copies. This proving, thoroly done and completed, puts this society on record and makes it known all over as the only society of specialists in the country who has paid any attention to therapeutics.

DR. BELLOW'S: In publishing that book I used my best judgment, but I guess that judgment was pretty poor. I was anxious to have the work a credit to the society, to homœopathy and to myself, so I had it printed on rather generous lines by one of the best printers in the country and on the best of material. Whether the cost would ever come back was entirely problematical. I had to determine every detail beforehand and to incur expenses before I could make any applications for subscriptions. So, to put the subject in popular phrase, I took a long chance on that book and I took that chance knowingly. I thought there might be some return. The only expectation of any sharing of expenses, which I could possibly look forward to, was the original motion of this society in regard to the publishing of the book. The original motion was as follows:

"Moved—That the general director of our test proving be authorized to publish the results of this proving as soon as they are complete

—the publication to be issued in the name of this society. Also, that he be authorized to send a presentation copy to the editor of every homœopathic journal in this country and abroad, and to advertise it in any manner that is customary. Also, that the price of this publication be fixed, as nearly as may be, with reference to covering the expenses incurred. Also, that any deficit that may remain on account of it shall be made good by this society to the amount of \$100.00 and that any profits that may accrue shall be appropriated to drug proving."

This is the only business arrangement I had with this society; the one hundred dollars was all that I had any right to expect. I never looked for anything else. I took my chances on it and lost, but I can play the game; it does not keep me awake at night thinking about it. The proof that it never kept me awake is that when Dr. Schenck asked me about the expenses and received no answer I had none because I had never counted up. For all this I am not disposed to "squeal" and I shall feel mortified if any individual appeal is made to the members of this society or of the American Institute to make up the deficit on that book. I would rather never have made that report—the first financial report—than to have anybody pass the hat. That feeling is very strong in me. All that I should look for is the appropriation of \$100.00.

A. B. NORTON: I wish to compliment our society on having such an excellent piece of work. I also want to bring out the fact that this is not Dr. Bellows' book. It is a proving made under the auspices of the American Homœopathic, Ophthalmological, Otological and Laryngological Society and it is entirely right and proper for this society to act as selling agent for its own publication. Dr. Bellows' name need not appear at all or only as the director of the proving for the society. I consider this as much a debt of honor as any debt this society has ever contracted. It is our bounden duty to clear off this debt from Dr. Bellows' shoulders. He has done more than anybody else—an immense labor, hours of personal hard work, day after day, month after month without any recompense at all. At the present moment the \$300.00 is all that we have in the treasury, but we have a steady income and gradually, as fast as may be, we should clear this up. It may be some years before we can pay it all off, but we should do it. If we constitute ourselves selling agents, Dr. Bellows need feel no embarrassment. The committee could get out the circulars. I second Dr. Schenck's motion that the report be adopted. Voted.

DR. SCHENCK: I move that this society appropriate \$300.00 toward the expense of the publication of this book, and that the Executive Committee be requested to send out proper circulars to our members and the members of the American Institute with the view of disposing of the remaining 287 volumes, calling attention to the fact that we have a deficit to meet and the volume to dispose of.

TREASURER CROSS: It would be well to remember that my report ends before this meeting and does not show the liabilities that we are incurring. The expenses of this meeting will most of them be paid before we leave here; there is a payment on the journal to be made.

DR. NORTON: Dr. Bellows is in no such financial straits that he must have money at once. I think that there will be a sufficient margin to make the payment of the \$300.00 possible before long.

DR. CROSS: I feel that we all should be thoroughly acquainted with the amount that is in the treasury and the payments that are to go out of it. For three years we have had a fair balance, but I think Dr. Hallett was not far from the truth when he once said that the difference between expenses and assets was only about \$10.00.

DR. BELLOWES: I should be insensible if I were not very much delighted at the interest—the unexpected interest—that my friends show in this matter, and yet I am not quite happy. I feel that some of these volumes are going to fulfill their possibilities of usefulness in years to come. If they are put on sale and urged upon the medical public in a commercial way they will be bought by men who will never read them, but will put them on the shelf to gather dust. That is not quite what I had in mind. I feel badly about their forced sale. I am a member of this society and feel an interest in its work. Is it not trying to assume a responsibility which is too great? I would not like to encroach upon nor limit the work of this society in any way. If the deficit is taken up it must be spread through a term of years and I hope that the volume—of which I think highly—will be used to promote the work of drug proving. For this I should be very grateful and entirely recompensed for the expense and trouble that I have taken.

DR. NORTON: Just because we had a poor treasurer two years ago who could not squeeze out more than \$10.00 is no reason why we cannot do better now. We have a good treasurer now and could do much better. The report of the treasurer this year showed a good balance on the right side.

G. DEWAYNE HALLETT: The ground upon which I came to the conclusion that this society had an income of about \$10.00 more than its expenses was based on the argument that if at any particular moment we dissolved and went of business, paid all our debts and collected all that was coming to us, fulfilled our obligations to print and distribute our transactions we would have about \$10.00 left and yet the treasurer's report might show \$500.00 on hand.

R. S. COPELAND: I find myself in a peculiar position; this morning I agreed with Dr. Fisher and now I am about to agree with Dr. Norton. I do think that we are under obligation to pay back this amount of money. We never can repay Dr. Bellows for what he has done for us.

Motion carried unanimously.

DR. BELLOW: I feel now that I am in the hands of my friends.

G. W. MACKENZIE: I move that Dr. Charles M. Thomas, of Philadelphia, be put on the list of Honorary Members. Seconded. Carried.

The following were **dropped from membership** for nonpayment of dues: C. J. Swan, Sayer Hasbrouck, and R. C. Conklin.

The **resignation** of Henry Bierman, of Philadelphia, was received and accepted.

DR. COPELAND called attention to the prolonged illness of one of our oldest and most esteemed members, Dr. Leigh Y. Baker, of Washington.

DR. SCHENCK moved that Dr. Baker's dues be remitted and that he be continued a member until such time as his health may permit him to resume active membership and the payment of dues. Seconded. Carried.

Notice was given of an amendment adding a Necrologist to the regular officers of the society.

E. W. BEEBE: There is a question with which this society has been confronted each year since its organization and which now is apparently no nearer a solution than at its beginning. I refer to the unequal distribution of its officers, essayists and discussers of papers. It is apparent to all of us that for the benefit, growth and prosperity of the society in point of numbers and efficiency a more cosmopolitan policy should be instituted, in the distribution of our essayists particularly. There is no doubt but that the quality of our papers is en-

hanced by choosing our essayists from in and about our great medical centers, but I believe you will all agree with me that in a national society, like ours, this is a manifest injustice to those members living in remote sections of the country. This fact is not only apparent to those members, but is detrimental to increased membership from such sections.

It may not be known to the younger members of the society, but many years ago the fact that such members received but little recognition from the society came near causing a split in our ranks and the organization of a separate society, whereby such members could partake in the business and the discussions in which they were interested. Happily the tendency to disruption was smoothed over at that time and for many years past; I trust that for many years to come nothing may be done which will be likely to divide our ranks.

To call the attention of the members to the manifest injustice to most of our members living outside of the New England States let me incite you to an examination of our present program. Not that it is worse or different from any which have preceded it, but to show how much easier it is to obtain papers from those living in larger cities than from those residing in the smaller ones. I do not know whose fault this may be, if it be a fault, and so far as I am concerned it makes no difference. I am presenting this matter simply from a sense of justice to those not present to speak for themselves, trusting the society may take some action which will prevent future mistakes of this kind.

We have, the present year, ten chairmen of bureaus or symposiums. Of these, Pennsylvania has 3, New York 3, Ohio 2, Illinois 1, and Connecticut 1, no other states being represented. Thus Pennsylvania and New York together have more than half of the whole number. Had there been but a single chairman from each of the ten states the appointments would have been likely to have given more general satisfaction and better justice.

We have 36 papers to be read at this convention of which New York state has 16, Pennsylvania 8, Ohio 6, Massachusetts 2, Illinois 2, Rhode Island 1, Connecticut 1 and Michigan 1, no other states being represented. Of these New York and Pennsylvania combined have two-thirds of the whole number presented.

On a basis of membership New York is entitled to 7 papers in place

of 16 to her credit, Philadelphia to 5 in place of 8, etc. Of the discussions upon these papers New York has 5, Illinois 3, Missouri 2, Pennsylvania 2, Rhode Island 1, Minnesota 1 and Michigan 1, no other state being represented.

Now, Mr. President, I trust the society may take some action whereby in the future it will be impossible for a small portion or corner of our great country to practically dominate or ignore its members residing in more distant parts or away from our medical centers.

For the benefit of those who are not present I believe it will be to the advantage of the society to send a circular letter to those who may feel that they have not been properly treated in this matter, in which the facts may be stated, for it is not at all probable that such a state of things was premeditated or designed, but was the result of circumstances and conditions unforeseen. To prevent such occurrences in the future would it not be advisable to have a standing committee who would act as advisers or censors to pass upon our officers' appointments with a view of making our work in the future more cosmopolitan?

H. S. WEAVER: If Dr. Beebe had been secretary for one year he would not be so severe in his criticism. When I was secretary I wrote to every member of this society for contributions. I got comparatively few answers. I do not think that our present officers are responsible for any unequal distribution of essayists, the members themselves rather are responsible. It is the hardest thing in the world to get a sufficient number of papers together to make an interesting meeting.

E. D. BROOKS: I would like to have a statement from the officers as to the means that were taken this year to get papers together.

DR. BEEBE: I do not wish the society to take up this matter in a spirit of criticism. It makes no difference who is to blame; it may be simply the force of circumstances.

R. S. COPELAND: I sympathize very much with the spirit of Dr. Beebe's criticism; there is no bitterness in it at all. I think that it is a pity for a name to appear more than once on a program. Dr. Beebe's purpose, I take it, is that there may be no embarrassment in the society. In my own case I feel embarrassed because I am down for more than one paper. There are other names that appear twice. It is a matter that should be given some attention. In the American Institute of Homœopathy there is a standing resolution that no man shall be permitted to give more than one paper to one bureau. On the other

hand I will say in justification of the present administration that it is a tremendously hard thing to get papers for a meeting, and naturally those who are willing to write get the most chances. The year I was president we spent large sums of money sending telegrams at the last moment to different parts of the country to get papers and insure a good program. The membership of the society is larger than it used to be and that helps some. There were about twelve new members added this year. I move as a standing resolution that no member shall appear in more than one place on any given program. Seconded.

PRESIDENT HASELTINE: Any remarks on this?

G. W. MACKENZIE: I remember the program last year, I was on twice; we have done it before.

GEO. A. SUFFA: It seems to me that it might be very inconvenient some time to be limited in that way. It might be well to divide the specialties and not allow one man to appear twice on the same specialty.

D. W. WELLS: This motion is unnecessary. I think Dr. Beebe is misinformed. During my presidency a reply postal, giving an opportunity to take part in the program, was sent to every member. After titles of papers had been received, the question of discussors was taken up and the list of members was gone over in alphabetical order. Every opportunity was given to each member of the society to help contribute toward the program. This year not all were invited but that is because a different method was pursued. I think that Dr. Beebe has been misinformed as to the real state of the case.

DR. CROSS: At our annual meeting last year it was voted that the officers should communicate to the members thru our official journal. No replies resulted from that and we were obliged to take up this other method.

THE PRESIDENT: It is partly a matter of geography; the specialists are few in the western states. It is impossible to get up a good program out of them and this year we meet in the extreme east with the result that comparatively few men are here from as far west as Chicago. Two communications have been sent to every member of this society asking for contributions to the program. Also this year I went outside of the membership and invited men who are not members to write papers for us. This resulted in some of them joining the society so that we are that much better off. There are seventeen names on the program of men who have either joined this year or last year, and they have been brought in in that way. It is an excellent way of getting good men interested in our society and its work.

DR. BEEBE: What I have said I have said without personal feeling, without personal criticism, merely in the hope that some means might be taken whereby we could get hold of our countrymen and push them somewhat to the front. Some of our meetings are Boston affairs, some are New York affairs. Some way could be devised to spread it out more.

DR. BELLOWS: In the effort to spread out we must be careful that we do not limit ourselves too much. If we were to limit a man to a single discussion it would limit us very much and possibly make a less interesting program.

DR. SCHENCK: Any one who has been an officer of this society since the time it came out of the American Institute knows that such a policy as that spoken of by Dr. Beebe would have been suicidal. We have to have a surplus of papers and discussors on hand to insure a good program. I feel that a motion like this that we are discussing would be a serious handicap to our officers. We are just getting out of the woods and this would put us in again.

DR. COPELAND: I agree fully with all that has been said in opposition to my motion. In regard to Dr. Nagle's papers it is only fair to state that he did not want to appear on the program in that way. We put him down for two papers and also as chairman without his consent. I notice that Dr. Lloyd is down twice and it would be a loss not to hear him. Still I think it would not be so difficult to make up a program without names appearing twice as writers of papers at least. If there is any appearance even that the thing is being manipulated to keep it in the large cities let us correct the matter at once. We will not suffer from a correction of that kind I am sure. The meeting would not have suffered if you had left out one of my papers or both of them for that matter.

THE PRESIDENT: If there are no more remarks I will put the motion. Motion lost.

REPORT OF THE COMMITTEE ON NOMINATIONS.

G. DEW. HALLETT: Your committee takes pleasure in presenting the following list of names for your officers for the ensuing year:

President, Geo. A. Suffa, Boston, Mass.

1st Vice-President, W. H. Phillips, Cleveland, Ohio.

2d Vice-President, Chas. E. Teets, New York City.

Secretary, Dean W. Myers, Ann Arbor, Mich.

Treasurer, Albert E. Cross, Worcester, Mass.

Board of Censors, W. E. Waddell, George Rhoads, F. W. Reiley, A. W. Palmer, W. B. Kreider.

On motion of Dr. Brooks the secretary was instructed and cast the ballot of the society electing the above named ticket.

Symposium: Labyrinth, Geo. W. Mackenzie, Chairman.

Paper No. 17, Physiology of the Labyrinth, Wm. M. Muncy.

Paper No. 18, Diagnosis of Labyrinth Suppuration, Ella G. Hunt.

Read by title.

Paper No. 19, Report of a Case, Geo. A. Shepard.

Paper No. 20, Hyperemia of the Labyrinth, H. P. Bellows.

Paper No. 21, Report of a Case of Labyrinth Suppuration, Geo. A. Denman. By title.

Paper No. 22, Diseases of the Labyrinth or Differential Diagnosis of Labyrinth Affections, A. E. Ibershoff. Read by title.

Paper No. 23, Complications of Labyrinth Suppuration, Gilbert J. Palen. By title.

Paper No. 24, Prognosis and Treatment of Labyrinth Suppuration, Royal S. Copeland.

Paper No. 25, Some Important Facts Worth Emphasizing, Concerning the Labyrinth and Its Diseases, Geo. W. Mackenzie.

General discussion by Drs. Haseltine, Copeland, Suffa, George, Hallett, Brooks, Shepard, Muncy, Bellows, Mackenzie.

FOURTH SESSION—THURSDAY, JUNE 29TH—8:00 P. M. TO 10:00 P. M.

REPORT OF THE AUDITING COMMITTEE.

Your committee begs to report that we have carefully gone over the treasurer's books and find them correct in every detail.

G. DEWAYNE HALLETT,

H. S. WEAVER.

On motion accepted.

On motion the treasurer's report was adopted.

G. W. Mackenzie, 2d Vice-President, called to the chair.

Symposium: X-Ray Flash Treatment, E. H. Linnell, Chairman.

Paper No. 26, Some Further Experiences in X-Ray Flash Treatment, E. D. Brooks.

Paper No. 27, A Final Word on X-Ray Flash Treatments, E. H. Linnell.

Written discussion by H. D. Schenck (read), C. G. Fellows (by

title), and F. R. Cook (by title). General discussion by Drs. Shepard, Warner, Schenck, Wells, Brooks and Linnell.

PAPER AND STEREOPTICON VIEWS.

Paper No. 28, Cerebral Lesions Producing Eye Symptoms, R. I. Lloyd.

General discussion by Drs. Mackenzie, Shepard and J. A. Wilson.

FIFTH SESSION—FRIDAY, JUNE 30TH—8:00 TO 10:00 P. M.

President Haseltine announced the appointment of E. W. Beebe, of Milwaukee, as necrologist for the year.

ADDITIONAL REPORT OF THE BOARD OF CENSORS.

Robt. H. Burke, West Burke, Vt., elected to membership.

Symposium: The Lymphoid Ring, G. W. McDowell, Chairman.

Paper No. 29, From an Internist's Point of View, A.B. Schneider.
On motion read by the secretary.

Paper No. 30, From a Specialist's Point of View, W. H. Phillips.

Paper No. 31, Surgery of the Tonsil, Harold Foster.

General discussion by Drs. Ball, Muncy, Brooks, Palmer, Hooker, Weaver, Mackenzie, McCleary, G. B. Rice, Cross, Haseltine, Phillips and Watters.

SIXTH SESSION—FRIDAY, JUNE 30TH—2:30 TO 6:00 P. M.

REPORT OF COMMITTEE ON ATTENDANCE.

June 26th, afternoon	39
June 27th, evening	67
June 28th, special, morning	31
June 28th, afternoon	45
June 28th, evening	46
June 29th, evening	50
June 30th, afternoon	19

Respectfully submitted,

M. McLEAN,

J. R. McCLEARY.

Report accepted.

The president appointed the following committee to act, with himself as chairman, as a committee on Medical Education as recommended by the committee on president's address:

David W. Wells, Geo. W. McKenzie, W. H. Phillips.

Symposium: Ear Infections, G. W. McDowell, Chairman.

Paper No. 32, Bacteriology and Pathology of Middle Ear Infections, E. S. Munson. Read by title.

Paper No. 33, Sinus Thrombosis and Brain Abscess, G. DeWayne Hallett. By title.

Paper No. 35, Typical and Atypical Cases of Mastoiditis, G. W. McDowell.

Paper No. 36, A Brain Abscess Case, Alton G. Warner.

Written discussion by R. I. Lloyd. General discussion by Drs. Shepard, Mann, Brooks, Lloyd, Haseltine, Warner, Mackenzie.

G. W. MACKENZIE: I move a rising vote of thanks to Dr. W. M. Muncy for the excellent care that has been taken of us. Seconded. Carried.

Thanks were voted the management of the Hotel Imperial for the entertainment afforded.

ROYAL S. COPELAND: This has been a most successful meeting and will compare favorably with any one of the previous meetings of the society; I move a vote of thanks be extended to President Haseltine and the other officers for the splendid program of scientific papers provided for our instruction and delight. Carried. Adjourned.

ABSTRACTS.

Treatment of Suppurative Otitis Media (Scarlatinal) by Bacterial Vaccines. Of 2,537 patients suffering from scarlet fever, 8.2 per cent. developed suppurative otitis media. The usual treatment is unsatisfactory in many respects; the duration of the otitis media is frequently prolonged; the contagion of scarlet fever, whatever it may be, seems almost certainly present in ear discharges, and the dismissal of a patient with such aural discharges is thus dangerous to public health. The best time for commencing vaccine treatment in cases of otitis media is from the eighth to the sixteenth day of the discharge; continued high fever, nephritis, toxemia and various intercurrent affections, are contraindications to the administration of vaccine. Under vaccine treatment three times as many patients are cured within thirty days and permitted to go home as under the usual treatment, thus decreasing considerably the average residence of a patient in the hospital. Cases of otitis media offer a fruitful and encouraging field for the employment of vaccine therapy.—*P. G. Weston and J. A. Kolmer, J. A. M. A., Apl. 15, 1911.*

Ozena. From an analysis of the literature of ozena, including the etiology, histology, bacteriology and symptomatology of the disease, and from their own observations, in 138 cases of ozena and 22 cases of purulent rhinitis, Fraser and Reynolds conclude that: 1. No clear line of demarcation can be drawn between chronic purulent rhinitis and ozena. 2. Chronic purulent rhinitis (ozena) usually begins early in life as a hypertrophic catarrh of the nasal mucous membrane; the inferior turbinal is most severely affected, and has frequently gone on to atrophy while the middle turbinal is still in the hypertrophic stage. 3. The most common causes are the exanthemata, coryza in infants and syphilis. 4. Chronic purulent rhinitis leads to various changes in the nasal mucosa, notably metaplasia of large areas of the superficial ciliated epithelium into squamous epithelium; dense small cell infiltration of the submucous tissue (most marked in the superficial layers); catarrhal changes in, and atrophy of, the mucous glands; diminution in size and number of the cavernous blood spaces. In many cases there is atrophy of the turbinated bodies, especially of the inferior turbinal. In some cases there is arterial disease, and in the majority of cases there is sclerosis of the deeper layers of the submucous tissue. These changes have their counterparts in the mucous membrane of the accessory sinuses in certain cases of chronic suppuration, in the middle ear cleft in certain cases of chronic suppurative otitis media with cholesteatoma formation, and in the bronchi in such conditions as chronic purulent bronchitis and bronchiectasis. 5. Various micro-

organisms give rise to the first stage of ozena, *i. e.*, to acute and sub-acute purulent rhinitis—micrococcus catarrhalis pneumococcus, staphylococci and streptococci, etc. The characteristic picture of ozena is probably only produced when the bacillus mucosus ozenæ is present. 6. Ozena is more likely to develop in a congenitally roomy nose than in a narrow one on account of the greater tendency in the former to stagnation and consequent putrefaction of the secretions. 7. Atrophy of the nasal tissues may be due to the pressure of the crusts and to vascular or sclerotic changes, but is probably mainly due to toxic influences. 8. Tubercle and syphilis are concerned in the production of ozena in that they may lead to chronic purulent rhinitis. 9. Accessory sinus suppuration is not the cause of ozena, tho it not infrequently complicates this condition. 10. It is clearly established that ozena not infrequently occurs in several members of the same family, and there are some grounds for regarding it as a contagious disease. 11. Those who support the "primary bone disease" theory in regard to the causation of ozena have not shown that changes in the bone precede those in the mucous membrane; a lowered state of general health and neglect of treatment have probably more to do with the transition of purulent rhinitis into ozena than "congenital tissue weakness."—*Jour. of Lar., Rhin. and Oto.*, April, 1911.

Immediate Removal of an Injured Eye *quâ* sympathetic ophthalmitis.

"The risk is extreme—(1) If the wound be in the *ciliary region*: this dangerous area may be defined as the $\frac{1}{4}$ inch zone which surrounds the margin of the cornea. (2) If the wound be *septic*: often this can only be recognized by its consequences; it should, however, be noted that wounds giving rise to suppurative panophthalmitis are not liable to induce sympathetic ophthalmia. (3) If a *foreign body be retained* in the eye, its removal being impossible. Immediate excision of the eye is indicated by the concurrence of two of these conditions, even tho some sight be retained; by the occurrence of one of them if sight be irreparably lost, provided that the other eye be good and that it shows no sign of iridocyclitis. Under other circumstances excision of the eye may be delayed until symptoms arise without much risk, but operative interference is necessary when there is persistent, severe or recurrent iritis, when the eye is tender or when it becomes soft, or when the other eye is the seat of sympathetic irritation."

X-Ray Localization of Ocular Foreign Bodies and their extraction. S. Holth, of Christiania, Norway, fastens with fine black silk thread two planoconvex lead buttons, 2 mm. in diameter, to the conjunctival limbus at the ends of the vertical corneal meridian in order to secure fixed points on the surface of the eyeball. This illustrated article also shows forceps of varying spade shapes.—*The Ophthalmoscope*, Aug., 1911.

BOOK REVIEWS.

THE PLACE OF OPERATION IN THE TREATMENT OF UTERINE FIBROIDS.
By EDWIN A. NEATBY, M. D., London, Eng. Octavo of 84 pages, illustrated. Cloth, 3/6, net. Homœopathic Publishing Co., London, Eng. 1911.

Those who are in doubt as to the best course to pursue in a given case of uterine fibroid should read this little book by Dr. Neatby. The subject is well worked out, with a saving of much time.

Dr. Neatby's opinions are the result, not of theoretical deductions, but that best of teachers—experience.

The title has been brought up to date and the text is condensed and illustrated by a variety of characteristic clinical cases as met with in general practice.

Especial attention has been given to the latest accepted teachings upon the pathology, diagnosis, treatment and prognosis of these so-called innocent tumors.

The reader is impressed with the fact that the benign influence of the menopause on these growths is vastly less than some of the text books would have us believe; that many of the most serious forms of degeneration occur after that date, and that, while atrophy is not uncommon, disappearance after the menopause occurs only in a small percentage of cases.

Modern investigation proves them to be a much more formidable class of neoplasm than was formerly supposed.

Dr. Neatby's success with homœopathic remedies in the treatment of fibroids has not been gratifying. *Calcarea carbonica*, iodide of lime, trillium, secale are the main medicines that have proved more or less useful in the doctor's hands.

He further states: "I am pleased to notice that lately the more strict homœopathists begin to recognize that these secondary results, of a mechanical nature, are naturally and necessarily beyond the sphere of drugs."

Regardless of the fact that the German authorities deem it unsafe to operate in cases where the hemoglobin is under 30 per cent., Dr. Neatby has operated successfully where it was only 25 per cent. However, anemic patients have less resistance against sepsis than others.

More important than the percentage of hemoglobin is the duration of anemia and the size of the tumor.

Long standing anemia and a large tumor both tend to induce degeneration of the cardiac muscle.

Dr. Neatby's record of one hundred consecutive cases of hysterectomy with two deaths makes us respect the opinion of this surgeon in preference to the text books often written by theorists and men of limited experience in the matter of fibroid tumors of the uterus.

The man whose opinion is dangerous is the one who relates before our societies the history of his experience in an occasional case.

The general practitioner as well as the gynæcologist will find this excellent little work well worth a place in his medical library.

J. HUBLEY SCHALL, M. D.

THE BLOOD AND ITS THIRD ANATOMICAL ELEMENT. By A. BECHAMP, formerly Professor in the Medical Faculty of Montpellier (France), Corresponding Member of the Academy of Medicine. Translated by MONTAGUE R. LEVERSON, M. D. Cloth, 440 pages. Price, \$1.50. Postage, 10 cents. Philadelphia: Boericke & Tafel. 1911.

Despite the intemperance of the translator and the diffuseness of the book, it will be interesting to follow Béchamp's work for over half a century, his protest against spontaneous generation, his studies of the coagulation of blood ferments, and his "microzymian theory of the living organism."

Microzymes, according to Béchamp, are "living molecular granulations," discovered by him and named in 1866; they are "the smallest and most powerful of ferments, often so small that they could only be seen under the strongest enlargements of the immersion objectives of Næstel."

This is the closest approximation in the book to enable us to form any estimation of their size, except—on page 127—"The minuteness of the humid microzymas, swollen with water, is extreme. Under the microscope [what amplitude?—Reviewer.] they appear to be spherical in form, animated with the Brownian movements, the diameter whereof hardly attains 0.0005 (half a thousandth of a millimeter)." Half a micromillimeter was not considered "extreme" minuteness in the year of Béchamp's death, 1908. Unfortunately we find no indication of when this book was written or published in France. No allusion is made to the ultramicroscope or to whether microzymas will take any stain. The whole book is full of theory and assertions, but demonstrations are woefully lacking altho there are claims to have "demonstrated" various things. Béchamp "established" and "argued" that the microzymas of chalk, etc., were the microzymas of the bacteria which the anatomical element microzymas of the living beings of the geological epochs had become!" "I am able to assert that the microzyma is at the commencement of all organization. And the microzymas of the destroyed bacteria being also living, it follows that these microzymas are the living end of all organization. The microzymas are surely then living beings of a special category without analogue."

The reviewer notices the book, with extracts and criticism, but is not endorsing it. The translator seems to be creating (?) the word "microzymas;" the dictionaries at hand—Foster, Gould and Dorland—say "microzyme," giving microzyma as the Latin term.

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EDITORIAL.

THE SECRET DIVISION OF FEES.

IN our editorial of February last we wrote: "Of recent years there is an unfortunate tendency to commercialism creeping into the profession, an effort on the part of some physicians to secure from the surgeon or other specialist a cash commission for bringing work to him. Such demoralizing practice should be energetically discouraged as an insult to the surgeon and to the profession. The code of medical ethics should denounce this practice in no uncertain terms, and any man seeking such a commission should be denounced to the disciplinary or executive committee of his society, and—unless he repent—he should be blackballed in any medical organization in which he seeks membership."

The protest against this "professional prostitution" is growing apace; several county and State societies have inaugurated measures toward its restriction or prevention, and the daily press is awakening. Signs are not lacking that the practice is on the increase, said Dr. Brettauer last April.

By the secret division of fees is understood the division of a fee between medical men without the knowledge of the patient.

The causes which have led to this practice may be easily traced—but they can not be accepted as excuses.

Of course, it is but a very small minority that is guilty, and we have faith that they will be effectively dealt with before their number increases materially. But the profession at large must realize the extent and the demoralizing effect of this evil and take steps to clear its own skirts before the commonwealth acts.

In fact, both movements have already been inaugurated. Last spring the Erie County (N. Y.) Medical Society took up this matter;

a committee reported that sundry surgeons split their fees with many of the physicians who sent them cases for operation, and a copy of the report was sent to the Board of Regents, who referred it to the State Board of Medical Examiners with directions to report to the Commissioner of Education. * * * We excerpt from the report of the Medical Examiners:

"There is no question but that some members of the profession, who are specialists, are in the habit of secretly dividing their fees with, or of granting commissions to, physicians who recommend their services; that such unethical methods are far from being general, are, for the most part, confined to the larger cities and limited to a small percentage of practitioners.

"It is recommended that diligence on the part of the officials of County Medical Societies may make it possible to uncover acts of this kind, and it is the opinion of the Board that if the clause of the medical practice act, making fraud and deceit punishable by the revocation of a license, does not provide ample powers, the penal code should be amended to enable the authorities to punish the offenders.

"The State should take cognizance of the evil and advise the respective county organizations to take action deprecating such practices and calling upon all members to report all cases of this kind coming to their attention."

September 2 the *Brooklyn Daily Eagle*, whose editor is Vice-Chancellor of the Board of Regents, devoted over a column to a strong editorial denunciation of such a disgraceful condition. Under the caption, "A Medical Abomination That Must be Brought to an End"—alongside a long extract on this subject from the minutes of that Board—it said: "The enormity of the sin against ethics, against common honesty, and against victimized humanity cannot be measured, for it is immeasurable. * * * The tendency of this collusion is to declare operations are necessary in order to increase the money which conspiring surgeons and conspiring practitioners can divide between them, at the expense of the life or the mutilation of victimized patients, and always at the expense of their pockets. * * * The Regents adopted a report from Dr. Draper, which roundly condemned the abuses, but insisted that such do not largely exist in other counties and pointed out that late action of the Board has made extremely difficult the continuation of the abuses, even in Erie County, and the spread of them elsewhere. It had been better had the Regents sustained the drastic recom-

mendations of the State Board of Examiners, instead of leaving the correction of what we do not hesitate to denounce as morally a crime to the progress of time. The Board of Regents will, however, soon have to do what it refrained from doing Thursday, for public opinion will force the Board to do so. What is deferred is neither prevented nor long postponed, after condign public wrongs are brought to sovereign public notice.

"The Eagle sets forth today the statements exposed to view, the condemning characterization of Erie County facts by the Regents and the hopeful promise of corrective action ere long by the State Board. The declaration of wrongs and the promised provision of remedies could not be better made. The State will see to it that, within or without the medical profession or of the Board of Regents, reform will come, and soon. For in matters protecting health and life against syndicated conspirators, against both, there can be no steps backward and the disclosures today have kindled a fire which will not be extinguished until the abomination shall have been burnt away."

In the *New York State Journal of Medicine*, August, 1911, Dr. Robert T. Morris suggested (on April 23d, before the Educational Alliance) that "a representative body like the New York Academy of Medicine arrange a plan for allowing men to register their opinions on the subject of secret division of fees; the ones who failed to register properly would make an easy classification, and in this way we could make the Empire City of the Empire State openly committed to sentiments which will influence the entire nation." . . . He said: "Some very excellent men deprecate the discussion of this topic of secret division of fees because of their fear that the whole profession will be brought under suspicion. They are wrong. Bright sunlight and fresh breezes are always purifying agents."

"Should we be careful about awakening a slumbering public? If the public is our prey and we are vampires—yes! for our sustenance depends on continued slumber of the victim. Are we guardians of the public's welfare? Then awaken the public quickly. What, ho! watchman!

"The secret division of fees is a menace which belongs to a coming period of degeneration, when moral relaxation is already in evidence. . . . When the optometry bills came up before various legislatures many members of the profession wondered at the success of opticians opposed to oculists, but the facts leaked out. Any oculist who has ac-

cepted a commission for spectacles is emasculated, and so many have suffered this accident that in our time of need at the state capitols there were not enough oculists with horns to protect the public, themselves, or the medical profession. Opticians were able quietly to show legislators that they were simply in "competitive trade" with oculists, and the legislators looked at the matter in that way. I know a man who has a pocketful of checks paid by opticians to oculists for commissions and endorsed by oculists or by secretaries of clinics. When the time came for attack upon an enemy, instead of roars of courage and rending the enemy with vigorous horns they could only butt the enemy with soft heads, uttering feeble squeaks."

On the same evening Dr. Brettauer had told us:

"The Western Surgical Association has taken definite steps to do away with the practice. The Executive Council *eliminated a number of applicants for membership from the list of eligibles, because of authentic knowledge of such practices on their part.* They went a step further, moreover, by *striking a few, who were already members, off their rolls, because of the practice of fee-splitting and commission giving.**

"This is a good beginning. Specialists, and not infrequently prominent specialists, inaugurated the pernicious practice now under discussion, and therefore it is particularly gratifying that measures for its elimination should originate with them.

"The Erie County Medical Society has offered suggestions as to the methods to be pursued in effecting reforms." These have been published in the *Buffalo Medical Journal*, March, 1911.

The State recognizes, Dr. Draper acknowledges, that it wants the coöperation of the profession. Let us afford it, promptly, and with our might!

We call upon the members of the American Medical Editors' Association to take this up in their respective journals, without waiting for a meeting and resolutions.

Arouse the profession to see the importance of taking action in the various societies, and impress upon every physician or specialist who has the honor of the profession at heart to exert his personal influence toward turning this aspersion into a mere matter of history.

*Italics ours.—EDITOR.

SYMPOSIUM—BLOOD PRESSURE FROM THE STAND- POINT OF THE PHYSIOLOGIST AND PATHOLOGIST.

GEO. F. LAIDLAW, M. D.,

New York.

THE subject of blood pressure and its field in the practice of medicine may be divided into three periods: first, we as physicians knew about it, that is we knew that there was such a thing and that it was in the books on physiology; second, we talked about it, and third, a practical instrument was invented to record it with precision; then we took it up and knew more about it. Formerly we used the terms "blood pressure" and "high tension pulse" judged by the finger and we had remedies for such a condition without knowing much about it and, as we have now found, we often judged erroneously. The terms came into medicine and into therapeutics in a somewhat loose way, and there are many fallacies and some mistaken uses of remedies based upon the blood pressure simply tested with the finger upon the radial artery. It is a fact that almost all the real advances in medicine date from the invention of an instrument of precision. Diseases of the chest took a step forward when the stethoscope was invented. Specialists could make a more accurate study of diseases of the throat when the laryngoscope was invented. And so of the ophthalmoscope in relation to diseases of the eye.

Now the same thing has come true in regard to the blood pressure and the aids and helps in practice that are to be derived from it. The study of blood pressure in practical medicine dates from the invention of a little instrument about twelve years ago called the tonometer.

Now a still better and more practical instrument has been invented for the use of physicians, the sphygmomanometer.

Owing to the peculiar construction of the human mind the first tendency is to carry every new thing to excess and to put an importance upon it that in all fairness it is not capable of bearing. Our last toy was uric acid, but this new instrument will serve to crowd uric acid aside as a toy. Applying the instrument in actual practice we found very soon that there was one class of cases always characterized by increased or high blood pressure; that was all the states that come under the head

of chronic interstitial nephritis. When there were traces of albumin with tube casts of doubtful significance we could settle it with this instrument; if the blood pressure was high it pointed, in connection with the other findings, to chronic interstitial kidney disease. By this means we could recognize it early—a point of considerable practical importance. High blood pressure points to a much more serious condition than when it is low.

We found also that high pressure had a certain relation, although not so uniform as that spoken of, to arterial sclerosis. When you find a blood pressure of 200 mm., and by several tests show that it is a persistent condition, you may be very suspicious of chronic Bright's disease; if you do not find any other evidence of it, it will probably develop in time. I am reluctant to let any cases of 200 pressure slip from under my observation until I have decided by observation that they have not got that disease. Arterial sclerosis comes next in importance and frequency. Beside this there is an odd lot of various abnormal or at least unusual pressures of which we do not know the significance. It is the high pressures that have been the most fruitful of results and that have interested us more particularly. The low pressure—I mean the persistently low pressure—corresponds to a weak state of the myocardium; it has a relation to, and some importance in, the early diagnosis of tuberculosis.

As I said, too much importance is placed upon this subject owing to its novelty, and medical literature at present is inclined to group all diseases about blood pressure. A pressure of 120 or lower is associated with weak myocardium; my own blood pressure is about 110 and I have some signs of a weak myocardium such as shortness of breath. But we do not as yet know enough about low pressure cases to draw any certain conclusions from them. Many exceptions are noted. We do not yet know the rationale of blood pressure. There is the adrenalin idea; that, to my mind, is plausible but purely theoretical. It is very pleasing to the mind to be able to say that the suprarenal capsules keep up the blood pressure and that the thyroid reduces it, but it is not proved. Various poisons will raise the blood pressure, and thus is explained the high arterial pressure and tension of nephritis. What that poison is, we are not sure of; no physiologist has ever isolated it.

Then there is the mechanical theory and the splanchnic theory. High tension and pressure is the antithesis of shock and of collapse. In shock the great vessels of the abdomen relax and become as it were

reservoirs of blood so that the arterial tension is reduced, pressure is reduced throughout the body.

From a therapeutic standpoint the most persistent and difficult cases of high pressure to manage are the ones affected with nephritis; exercise, diet, remedies do not seem to do more than to have a temporary effect upon it. In arterial sclerotic cases, you can reduce the pressure by reduction of nitrogenous food, warm baths and the electrical current and hold it down for a time but it soon rises again.

Intermittent Word-Blindness.—E. Pritchard reports in the March *Ophthalmoscope* a case of congenital word and letter blindness, of extreme interest because of the intermittent or recurrent character of its manifestations, a peculiarity which the writer was unable to find described in other cases.

An intelligent boy, 8½ years of age, attending a London elementary school, was below the normal standard for his age because he could not learn visual reading. He learns quickly by ear, and with the exception of a memory for letters or words has a good visual memory as well. He will recognize at once even a badly drawn picture of a cup or bat or dog, but if one writes the letters c, u, p, he will not recognize any of them nor their significance. Upon repeated testing he failed to give the correct answer for more than one or two letters in the alphabet, which he probably guessed at. At times he will not only recognize all the letters, but can read quite intelligently; these lucid moments occur perhaps once or twice a week.

He has so good a memory for words spoken, that it is often very difficult to differentiate between a parrot-like repetition of whole pages of his reading book and an intelligent reading of the same.

Most of the cases of anomalies of speech are due to a congenital defect involving one or more of the following nerve-centers:

1. Auditory word-center—word-deafness.
2. Visual speech-center—word-blindness.
3. Motor speech-center—idioglossia.
4. Motor writing-center—agraphia.

The whole character of the condition cited appears to be allied to neurasthenia or psycho-asthenia, and it seems as if, while the constituent neuronic elements of his visual word-center were normal in structure, there was some defect at the synapses, which link up these memories with the processes of cells in closely associated nerve centers.

THE SPHYGMOMANOMETER IN PRACTICE WITH INTERPRETATION OF ITS READINGS.

HARRISON G. SLOAT, M. D.,

New York.

SO long as the blood flows it exerts pressure against the walls of the vessels thro which it flows. This fact was not observed for more than one hundred years after Harvey's discovery of the circulation and another century elapsed before any critical study of blood pressure was made. But now the sphygmomanometer takes its place with the microscope, the stethoscope and the percussion hammer in the armamentarium of the clinician.

In using the sphygmomanometer the operator must bear in mind the four primary factors which influence blood pressure: energy of the heart, peripheral resistance, elasticity of the arterial wall, and the amount of the circulating fluid. This last factor is seldom taken into account except in shock and after severe hemorrhage.

There are a number of lesser factors that must be taken into consideration when estimating pressure, or else we may be led to believe, as is claimed by some, that any figures having so wide a variation of normal limits are worthless. Among these I would mention periodic variations and call attention to the respiratory; and Traube-Hering waves, as examples. Posture influences pressure. It is lowest in the prone, and highest in the sitting and standing positions, the variations being about 10 mm. Influence of meals is still considered a doubtful point. Personally I have found it lower during the digestive period and assume that it is due to vasodilatation in the splanchnic area. Alcohol raises and tobacco lowers pressure. A heated argument may raise the pressure a number of millimeters. Two readings, taken before and after conducting a clinic at the Flower Hospital last winter, showed a variation of about 30 mm. If these facts are borne in mind it will probably be found that the blood pressure has a much more constant value than has been accorded it.

When we enter the field of pathology we find very wide fluctuations, varying from an agonal pressure of 40 mm. to one of 400 mm. in a case of cerebral hemorrhage reported by Briggs.

Hypertension may be classified as functional and essential. In the first class may be mentioned high pressure due to drugs, to toxic conditions, as seen in uremia and eclampsia, to acute anemia of the brain and cerebral compression.

In acute cerebral anemia the sequence of symptoms is: loss of consciousness, respiratory spasm, slow heart with increased pressure, followed by lowered pressure with quickened heart. This indicates first an excitation then a paralysis of the bulbar centers.

In cerebral compression a similar symptom complex is noted and this may seem at first paradoxical until we remember that the cranial cavity is a closed chamber, the brain substance incomprehensible so that any foreign body introduced here can find a place only at the expense of the blood in the neighboring vessels. Compression then produces a cerebral anemia with the sequence of symptoms just cited.

Essential hypertension is a lasting increase of pressure and is found in increased peripheral resistance plus hypertrophy of the left ventricle; it is seen in diseases of the vessels which are included in the general term arteriosclerosis and in the cardiovascular diseases of the kidneys.

Hypotension is met with in wasting diseases, as tuberculosis, cancer of the gastro-intestinal tract, shock, collapse and hemorrhage.

The sphygmomanometer may be used in some instances as an instrument of prognosis, thus: called to see a case of valvular disease of the heart with some dilatation and some hypertrophy, we are asked as to the immediate future of the patient. To get this information we proceed in this way: the pressure being noted the patient is given 15 mm. of adrenalin and the pressure taken every five or ten minutes for half an hour. If now the pressure rises 25 to 30 mm. we may assume that there is a good deal of reserve force in the myocardium; on the other hand if we get no appreciable rise it will be evident that the heart muscle no longer has the power to react to stimulation and the prognosis is grave.

Following the acute fevers of children—as scarlet fever, diphtheria, rheumatism, etc.—where damage has been done to the heart, the sphygmomanometer is useful in determining when to let the little patient out of bed. So long as the pressure is low and so long as the systolic and diastolic pressures are close together keep the patient quiet. Do not let him begin active life until the pressure reaches a point noted at the beginning of the illness.

And finally a word regarding arteriosclerosis:

Hardened and thickened vessels palpable in the radial, temporal and

brachial regions, the characteristic appearance of the retinal vessels as seen with the ophthalmoscope, have heretofore given the clinical diagnosis of arteriosclerosis. But this is only a small fraction of the arterial tree and we now turn to the sphygmomanometer for the diagnosis of this condition. However, the findings seem to be inconstant. A man beyond middle life with hard and tortuous radials and temporals may have a normal pressure while one without these visible and palpable signs may give a high reading. This is explained by the fact known to all pathologists that arteriosclerosis attacks the vascular system in a most irregular way. Hasenfeld and Hirsch, by a most painstaking series of investigations, seem to have proved what we have been taught by the physiologists, namely, that arteriosclerosis produces high pressure only when it affects the arteries in the splanchnic area or the aorta above the diaphragm, and that disease of the remaining system seems to have but little effect on blood pressure.

Relief of pain by **injecting alcohol into internal branch of superior laryngeal nerve**: Cleanse skin with alcohol. With left hand grasp larynx to steady it and hold it prominently under skin of side to be injected. Left index finger seeks the comparatively tender point where internal branch of superior laryngeal nerve penetrates thyrohyoid membrane, a point about half way between upper border of thyroid cartilage and hyoid bone, and about 1 cm. in front of superior cornu of thyroid cartilage. Hold finger firmly in place while needle is inserted at center of nail perpendicularly to a depth of 1 to 1½ cm., causing, if nerve is accurately located, pain radiating to ear. Then inject drop by drop ½ to 2 cc. of 75 per cent. alcohol (with or without 1 per cent. cocain), previously warmed, until original pain ceases or 2 cc. are used. Repeat next day if necessary.—*Lewy*.

THE RELATIONSHIP BETWEEN BLOOD PRESSURE AND DISEASES OF THE THROAT.

ALONZO C. TENNEY, M. D.,

Chicago, Ill.

I had made some observations in a number of cases before being operated by Dr. Haseltine and afterwards, and I called his attention to the differences in the blood pressure before and after surgical interference. He suggested that the matter might be of interest to this society and I understood that all that would be required of me was an informal discussion of my observations.

I approach the subject from the standpoint of the diagnostician and of the internist rather than that of the throat specialist.

There is no single diagnostic method in which you can go so far astray as in the interpretation of the sphygmomanometer as well as in the readings of the instrument itself. The slightest muscular contraction will give you a false reading; the difference between a sitting and a recumbent posture will change the result; a little excitement will affect it so that the first trial on a patient is almost always too high. The first, second and third trials will often vary as much as five or ten points. The difference in the blood pressure with the various positions of the patient when persistent gives ground for some valuable deductions for use in prognosis and treatment.

In connection with the findings of the sphygmomanometer we have to consider, 1st. the integrity of the heart muscle, 2d. the condition of the peripheral circulation, and 3d. the presence or absence of other diseases. We must endeavor also to determine whether the factor producing the observed variations is mechanical or chemical. Recently experiments have been made on animals in regard to the effect upon the blood pressure of adrenalin and also of tuberculin. The tuberculin of Koch—the old tuberculin—has a distinct and positive effect of lowering the blood pressure. The question is how does it do it; by acting upon the heart or upon the peripheral circulation or upon the vasomotor centers? On taking out the hearts of frogs and of dogs and immersing the organs in saline solution at blood temperature, the addition of enormous quantities of tuberculin was found to have no ef-

fect. In the peripheral circulation no particular change in the tension was observed when a considerable amount of tuberculin was added to normal serum. The conclusion was that the low pressure—the hypotension—of tubercular subjects was due to the effect of the nosode upon the vasomotor system. This was substantiated by noticing the effect of the tuberculin upon the general nervous system in the direction of lowering its tone.

The incipency of tuberculosis is accompanied by disturbances in the blood pressure, and one of the first symptoms of it is languor and a persistent tired feeling; this feeling accompanies the lowered blood pressure.

Another point is that the trophic changes are not due entirely to the toxins acting directly upon the tissues but rather to their effect upon the nerve centers of trophic control. How does all this apply to the question in hand, namely, the influence of diseases of the throat upon the blood pressure?

It is not infrequent that the tonsils and other parts of the throat that require surgical treatment are affected with tuberculosis and contain the bacilli; there is then no essential difference between the problem that confronts you and the internist. This being accepted as self evident the same reasoning that the internist applies in his diagnosis of tuberculosis or infection in other parts of the body will apply here. We have found no essential difference in the blood pressure whether the tubercular infection occurs in the throat or in the lungs. It is merely a question of the degree of involvement and the amount of toxin absorbed; this is what affects the blood pressure, no matter where the particular site of the infection is. What I have said of tuberculosis in general will apply to tuberculosis in the throat.

The toxins of the streptococcus and the staphylococcus infections in the acute stage always produce increased blood pressure. I mean that this is the case at the start of the disease—the first few days. The pressure is high while there is actual absorption of pyogenic products.

A case was referred to me to determine whether an operation should be performed under the conditions present. The blood pressure was 165, the patient was suffering from infection in both tonsils—staphylococcus and pneumococcus infection. There had been several attacks of “quinsy” before. The point was to determine whether operation was safe with such high blood pressure. This question may be answered by determining the coagulability of the blood. The blood of

the patient coagulated very readily and the blood pressure was reduced to 130 by administration of thyroid extract. Then the operation was performed. Her blood pressure subsided to normal and remained so while under observation.

Another case was one in which there had been old tonsillar infection with no active absorption that was discernible; the blood pressure was 132; it should have been about 120 in a person of that age. Tubercular infection was present in the tonsil. Under treatment the blood pressure subsided to normal and then to subnormal and remained there. Careful examination showed evidence of tuberculosis in other parts of the body. This condition responded to treatment and the pressure went up to normal and was so when last observed. The primary high pressure was due to the coccus group of toxins; the absorption was sufficient to produce increased pressure, sufficient to overcome the depression caused by the general tuberculosis. After the septic absorption was rendered impossible by the removal of the tonsils the tubercular process manifested itself and we got the low pressure.

A third illustration is to be found in a case in which we found lowered blood pressure. There was marked adenopathy; the cervical glands were involved and the tonsils enlarged. The removal of the tonsils resulted in no appreciable change but the general tubercular condition improved much more rapidly.

In older persons the blood pressure does not respond so readily to treatment; if we do not succeed in getting it increased when it is subnormal the prognosis is more doubtful and more serious. It was my intention to tabulate my cases and give the results to you for what they were worth, but a number of them that were promised to me by another specialist were not delivered—so I have not been able to make the tabulation. This is not now of so much importance because the subject has been presented to you so exhaustively by the gentlemen who preceded me.

Remember that you cannot draw absolute conclusions from a single reading; a number of tests must be made and even then your conclusions must be made in the light of a thoro knowledge of the patient and his condition. There are many other factors to be taken into consideration beside the blood pressure. But when it is taken in *conjunction* with other clinical aids it is a very valuable accession to our means of diagnosis. It adds data to our knowledge of a case that were not available before the invention of this instrument.

BLOOD PRESSURE AS A FACTOR IN EYE DISEASES.

ROYAL S. COPELAND, A. M., M. D.,

New York.

MY part in this symposium will be limited to the presentation of five or six cases. In each of these, in my opinion, high blood pressure was an important factor in producing prominent eye conditions. These conditions were really nothing more than symptoms of systemic disturbance, and yet they are types of many so-called "diseases" that fall to the lot of the oculist.

The other day I read a most interesting and in some ways most remarkable letter, written by a young man now studying medicine in Paris. He is an enthusiastic homœopathist, and eagerly grasps every possible proof of our long time theories. He mentions the French conviction that therapeutics is their weak point and argues that because of this the energies of the medical faculty have been directed into other channels, diagnosis particularly. The writer states that the great maxim in Paris, repeated at every clinic, and a by-word among students, is: "Il n'y a pas de maladies, il n'y a que des malades," "There are no maladies, there are merely sick people."

If the old school profession of an entire nation has so awakened to Hahnemann's maxim, "Treat the patient and not the disease," certainly we, his followers, ought not to overlook the patient in studying his eye trouble. Were I to go back of the eye symptoms and consider the blood pressure as more important, I would of course offer nothing better because I would be stopping at the first footprint on the backward trail and would be neglecting to seek further for the general cause responsible for the high tension itself. We have made a start toward better things when we recognize general increase in blood pressure as a possible factor in "eye diseases," so called, because we have escaped the thralldom of what has threatened to be a narrow specialty. How true it is that the specialist should know, not only "everything about something," but also "something about everything." When we seek for causes outside the eye itself, and in prescribing prescribe for the *patient*, we will be worthy our high calling as specialists, not only in ophthalmology but also in homœopathy.

As a cause of retinal hemorrhage, arteriosclerosis has long been counted an important factor. In and of itself endarteritis deformans, or arteriocalillary fibrosis, I do not consider tremendously important. When it is associated with increased blood pressure, however, we are dealing with a dangerous thing. Also, high tension unaccompanied by arteriosclerosis is formidable, especially in a patient past middle life. There is always the possibility that undue excitement or stooping, lifting, heat exposure or some other cause of increased head congestion may rupture one of the delicate retinal capillaries. When this has happened once it may happen again and again. I do not believe we have done our full professional duty until we have determined not only the general heart and kidney conditions but also taken the blood pressure; if this is found abnormally high it must be given solicitous attention. As a matter of fact, I have not seen a case of retinal hemorrhage, non-traumatic in origin, for the past year except it presented high arterial tension. The most recent case of this sort revealed a pressure of 260 mm., and inquiry into the general condition indicated other grave reasons for vigorous treatment. Possibly this inquiry would not have been thought of if the syphygmomanometer had not given such positive evidence of systemic disturbance. Some cases unfortunately seem to present high tension which is purely functional with our present knowledge; these are more puzzling but when associated with retinal hemorrhage, no matter how slight, must not be disregarded.

Spontaneous detachment of the retina is always a thing of mystery and unfortunately not susceptible of universally successful treatment. The same statement may be made of primary glaucoma. I have seen but few cases of either trouble during the past year, but it is interesting to note that every single patient of this sort had increase in tension, the pressure varying from 150 to 190 mm. "One swallow does not make a summer," and the observance of this symptom in a few cases proves little; however, it is a suggestion worthy your thought and future observation. If high arterial tension is invariably present in detachment and in glaucoma, new light may be thrown on the treatment of two very sad conditions.

Lastly, I would speak of asthenopia and tell you of the cure of two stubborn cases by a method somewhat unfamiliar to most oculists. The first of these was a woman aged thirty who has all her life suffered from violent headaches and who hoped that the adjustment of proper glasses might be of benefit. I made a careful examination. The oph-

thalmoscope, retinoscope and other instruments of precision were employed and the error of refraction carefully measured. Astigmatism and slight muscle imbalance were found, for both of which I made the usual correction. This was done in the fond hope and expectation that relief would follow. I confess it is not the first case to prove disappointing, but in this case certainly what I accomplished optically gave absolutely no relief and in no way changed the symptoms. Later I went over the case again, found exactly the same error of refraction and continued the prescription. No improvement followed. In desperation I told the patient that in my opinion the ordinary methods of the oculist would not suffice, and that if she felt disposed I would go over her condition with a view to the selection of an internal remedy. The patient was an intelligent woman and appreciated the situation. The first important discovery was a marked increase in blood pressure. The patient complained of having a hard ache in the top and back of the head and in the temples. Every jar was painful and she said that the smallest drink of wine or exposure to sunshine brought on the headache. "Rush of blood to the head" were the words used to describe it. For two days before the appearance of the menses, she would have the "blues" and, for days at a time, intense melancholia. There were occasional periods of blindness when she could not distinguish form, everything seemed red—the red glare she emphasized. The pupils were quite dilated, but as she talked they would occasionally grow small. The pain was as if there were a hot iron bar against the eye, the head seemed full of blood with occasional nose bleed. There was aggravation from cold and in wet weather and profuse localized sweats. The patient was fair, fat, and flabby. Perhaps I have not indicated in this description a sufficient number of symptoms to justify my prescription, and my record does not show, by any means, all of the minor symptoms of which she spoke. In the presence of these distinguished specialists, I hesitate to enumerate the symptoms upon which I did prescribe. However, I feel that I am in the hands of my friends and you will overlook the technical shortcomings of my description. On the 24th of February I prescribed *calcareo carbonica* 12x. She reported on the 7th of April "marvelously better," to use her language. She had gone thru the menstrual period without mental or physical disturbance, probably for the first time in many years; the eyes and head were comfortable. On the strength of the improvement, I discontinued the glasses entirely. On the 26th of April she

reported again, saying that she had had one slight headache since the last visit. At this time I gave her a dose of *calcareo* 30x, and in July I heard from her husband that she was well and happy, had had no return of the symptoms and was in better general health than in years before.

I recite this case because it is a typical one of *asthenopia*, headache, and functional nervous disturbance, such as we so frequently find associated or coinciding with an error of refraction. I do not believe it is possible to overcome these symptoms, or similar ones, in the large proportion of patients who consult the oculist, without the aid of proper glasses. There are many cases of eye strain however where the error of refraction is very slight, and yet where it is our common practice to prescribe glasses. I am of the growing opinion that in these patients, if time were taken to select a remedy doubtless the powers of resistance of the patient could be so increased as to obviate the necessity of imprisoning him behind spectacle rims. It is undoubtedly true that where an error of refraction exists there is a constant drain of nerve energy; if the powers of resistance are further lowered from any additional cause there comes a time when nature rebels and the eye symptoms become very conspicuous. Undoubtedly in many such cases, if correction is made of the general condition, the blood pressure lowered and the powers of resistance raised by the administration of the homœopathic remedy, the slight muscular effort required for overcoming a low degree of error of refraction will be negligible.

I purposely recited the case of this young woman first, because the symptoms of the next patient may be considered as perfectly natural and the common accompaniments of the climacteric. Personally, I believe the case was far from ordinary and that the whole chain of symptoms, general and ocular, came from the increased blood pressure.

The patient was about 52 years of age. She came to me as the next of a long line of oculists who had fitted endless pairs of glasses. She had *astigmatia*; this was corrected for distance and glasses considered proper for reading were likewise prescribed. Two months of the usual torture followed. I then took her blood pressure and found it to be 165. This is not excessive, of course, but yet it seemed to me capable of causing all her head and eye symptoms. Urinary examination and physical examination by her physician had revealed nothing out of the ordinary. On finding high tension I went further into the history and symptoms. Three years ago the patient had acute mania, lasting for

some time. After recovery from that she continued excessively nervous. The slightest nervous shock or excitement caused rapid and painful action of the heart, even thinking of disagreeable things increased the heart's action until the patient became painfully conscious of it. There was marked mental depression, unhappiness and thought of suicide. The patient complained of dizziness on looking down and on walking. She was not sure of her hands, dropped things. The characteristic hot flashes were conspicuous and perhaps decided the prescription. Anyhow, sepia was prescribed on December 10 last. On December 20th the blood pressure, a tangible symptom, had fallen to 140; a week later it was 130. Every untoward symptom had disappeared and to this day my patient is a happy, cheerful, enthusiastic woman whose viewpoint has been reversed and who is a daily exponent of the virtues of homœopathy.

Naturally, I am wondering if a modern proving of sepia would not reveal increased blood pressure as one of its characteristic symptoms. Possibly its value in the climacteric lies in its control of this condition. At least, in this patient sepia was far more potent than the product of the test case.

Time permits no further argument, but for my part I believe that in retinal hemorrhage, in detachment of the retina, in glaucoma, in asthenopia, in chronic conjunctivitis, in scleritis, and possibly in all the chronic inflammatory diseases of the eye, we cannot disregard the aid which may come from systematic use of the sphygmomanometer. It gives positive evidence of the presence in the patient of a condition remote from the eyes, and perhaps it may lead us to consult the expert in general diagnosis or in therapeutics. In our enthusiasm for our own field of activity it is possible we occasionally, perhaps often, overlook the fact that many disturbances, apparently ocular, have their origin in distant organs. It takes but a moment to determine the blood pressure and its elevation should warn us that the case merits unusual study and care. If this statement is at all suggestive or helpful my purpose has been accomplished.

DISCUSSION.

H. D. SCHENCK: I have been looking after a patient who was known to have arteriosclerosis and suspected of having nephritis also; she was referred to me for senile cataract. I took the blood pressure; the pressure was above what could be measured on a Tycos sphygmomanometer which goes up to 260; that case suggested to me that per-

haps other cases of immature senile cataract might show high blood pressure. With the idea of investigating the subject I have been for the last two months taking the blood pressure of cataract cases as opportunity offered and I have found none of them less than 165, they run from that figure up to 220 and 230. Of course my studies are incomplete but I thought that it might be worth while mentioning them.

G. A. SHEPARD: Some two years ago a woman of 48 came to me suffering from chronic hyperemia of the conjunctiva and extreme irritability of the whole nervous system. I found the retinal vessels somewhat tortuous: urinalysis negative. Two months later I found that she did not require any presbyopic glasses as she had previously; and, also a slight haziness appeared in the lower portion of the cortex of one lens. I advised that she see an internist who reported the blood tension to be 180 and that there was a slight amount of albumin. Under treatment the haziness of the lens disappeared, the blood pressure went down and the normal amount of presbyopia came back.

Dr. Copeland has spoken of high blood pressure as characteristic in cases of hemorrhage of the retina. A case that I reported to this society eight years ago had retinal hemorrhage with normal blood pressure. All the cases that I have had with markedly tortuous blood vessels have had high blood pressure.

D. W. WELLS: I have listened with great interest to the papers of this symposium and have just one word to say relative to high pressure in cataract cases—that is to ask some of the physiologists here to say something about the normal blood pressure at different ages. A blood pressure normal for a youth would not be so for an aged person and, as I understand it, the pressure increases in old age. In cataract cases the age of the patient is usually advanced. Dr. Green, of Dayton, Ohio, came to the conclusion that high blood pressure was part of cataract pathology; in all of his cases, and they were numerous, there was old age and also increased blood pressure. In order to make his conclusion valid, it seems to me, we should have a number of observations upon old persons without cataract and demonstrate that persons of the same advanced age without cataract do not have increased pressure. We must be careful and not confuse the occurrence of high blood pressure in persons with cataract as the cause or the essential when, perhaps, the person in question would naturally present high blood pressure.

G. W. MACKENZIE: I agree with Dr. Tenney that the instrument is a valuable one, but cannot be depended upon solely. I have an instrument, made in Philadelphia, which I have been using for a number of years quite freely. Concerning arterial sclerosis, I want to remark that the instrument may give inaccurate readings from the fact that not all of the arteries are equally involved. The radial may be normal and the temporal sclerotic. A patient may have sclerosis of

the arteries of the brain and not show it at all in the arteries of the arm.

I want to mention a case where this instrument was of particular use in making a prescription: a prominent Philadelphia physician reported to me with a tickling cough and pharyngitis. The throat was purplish red and quite dry, suggesting to me that the man had diabetes. He had a divergent squint and on his third visit to me mentioned something about his eyes, adding that he had a vertigo. On examining his fundus I found that he had three hemorrhages in one eye and two in the other; I took his blood pressure and found it normal. The peculiar appearance of the throat—purplish red in color and dry—and the fact that he was very loquacious led me to give him lachesis; it not only improved his eyes, but helped his general health immensely. It is now a year since he has had any symptoms.

I attribute the prescription and its success to the blood pressure being found normal, for if I had found it high I should have given glonoin.

PRESIDENT HASELTINE: It has been stated that posture has some effect upon the blood pressure; that it is higher in the erect position than in the prone; does that have any bearing upon tonsillar hemorrhage? Would the vessels be less likely to bleed if the patient were lying down than in the erect or semi-erect posture? I would like, also, to know if there is any difference in the pressure in the different arteries, say between the pressure in the vessels of the extremities and the large vessels in the trunk?

H. G. SLOAT: No, there is no difference; the pressure in the aorta is the same as in the terminal vessels; the pressure in the arteries does not have as much to do with hemorrhage as the coagulability of the blood. The erect and the recumbent posture make about 10 millimeters difference in the readings; that would have very little bearing on the question of hemorrhage.

The sphygmomanometer is useful in determining the presence of arterial sclerosis where we cannot determine it by other means. If the radials show it, it is enough; if the peculiar appearance that goes with it is seen in the fundus of the eye, that is enough; but these arteries are but a small part of the arterial system and while they can be observed by touch or sight they are not enough in extent to affect the pressure. On the other hand, if there is sclerosis among the large vessels in the splanchnic area we would neither see it nor feel it, and then it could be determined by the blood pressure, because in that case it would affect the latter—there would be high pressure. It is the dilatation of these large deep-seated vessels that gives relief to the peripheral arteries when the pressure is too high, they serve as a kind of reservoir in such conditions.

There is one point I want to mention: it is a good plan to reduce all readings to a certain standard. The breadth of the cuff and the

circumference of the arm have an effect upon the reading; exactly the same pressure in a man with an arm twelve inches around would read differently in a child with an arm only eight inches around. Therefore, we practice at the hospital a method of reducing all to a common standard. By dividing the product of the width of the cuff, multiplied by the arm circumference into the number of mm. of pressure, you get a uniform result, no matter whether the arm of the subject be large or small.

R. S. COPELAND: It is perfectly clear to all of us that high blood pressure does not always mean arteriosclerosis; the exact cause of this condition is not known. One thing not yet mentioned is that the blood pressure in any individual changes very materially with the barometric pressure. Dr. Rudderow, an enthusiastic yachtsman as well as physician, has watched the variations of the barometer in connection with the blood pressure, and says it is wonderful how the blood pressure varies with the barometric readings. We have here a possible explanation of the reason why some people feel nervous and ill at ease from no apparent cause when the improved local and general conditions ought to bring comfort.

My own paper was simply intended to be suggestive and if it has been helpful in any way I am glad.

E. D. BROOKS: I move that we have a rising vote of thanks to the gentlemen, nonmembers, who have taken the trouble to give us these papers and that the Secretary be instructed to convey the same to them. Seconded. Carried.

Ophthalm-Diaphanoscope.—Langenham (*Zeit. f. Augenh.*, Dec., 1910) lays especial stress on its superiority in the differential diagnosis between the ordinary serous detachment of the retina and the detachment of choroidal tumor. In contrast to the uniform red color of the diseased retinal area, solid tumors appear as nontransilluminable black configurations on the red fundus. In speaking of the picture of medullated nerve fibers he says the diaphanoscope picture demonstrates the very opaque qualities of the medullated fibers in the living eye. The enlargement of Mariotte's blind spot thus receives a sufficient physiological and physical explanation in the very slight transparency of the fibers and does not require the supposition of rudimentary development of the retina in the area of the fibers.

Hansett concludes: The light is invaluable in the diagnosis of orbital tumors; thickening of the walls of the orbit; and in growths in the posterior half of the eyeball, and it is of the greatest aid in the transillumination of the anterior cells of the sphenoid, the ethmoid and the antrum,—*Ann. of Ophth.*, July, 1911.

OBITUARY.

HERMAN KNAPP, M. D.*

BY ALEXANDER DUANE, M. D.

ON the 30th of April, 1911, died at Mamaroneck, New York, Herman Knapp—a master mind in all branches of ophthalmology—equally distinguished as a clinician, operator, investigator, author, and teacher.

Herman Knapp was born in Daubold, Prussia, March 17, 1832, his father being Johann Knapp, member of the German Reichsrath. He received the thorough preliminary education, usual in Germany, preparing at the gymnasium in Weilburg, and afterwards studying at the universities of Munich, Würzburg, Leipzig, Berlin, and Giessen. That he became proficient in mathematics and the languages will be well understood by those who knew him in after years; but many may be surprised to learn that he was also inclined to poetry, and that at times he even regretted not having devoted himself to this instead of to medicine. However, to medicine he finally turned, receiving his degree at Giessen in 1854. Ophthalmology, which was then just entering on a new phase of its development, soon engaged his attention, and characteristically determining to get the best instruction possible, he visited in turn Paris, London, Utrecht, and Heidelberg. In these cities he studied and did original work under Bowman, Donders, and Helmholtz. Surely it falls to the lot of few to be associated with such men.

Under their guidance and the mighty stimulus of their example, Herman Knapp, working with an enthusiasm for knowledge and a fiery industry that in his case always seemed limitless, rapidly became proficient in all branches of ophthalmology, and early began to make important contributions of his own to the science. As early as 1859 he made a series of researches in Helmholtz's laboratory, which were of fundamental significance for physiological optics. Their results are presented in his thesis (*Habilitationsschrift*), on "The curvature of the cornea in the human eye," presented when a candidate for the

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position of privatdocent at Heidelberg, and in a paper printed the same year on "The position and curvature of the human crystalline lens and the influence that accommodative changes therein exert on the dioptrics of the eye." Appointed privatdocent at Heidelberg in 1859, he became professor of ophthalmology there in 1864, and held this position until four years later, when he decided to come to America. In 1868 he settled in New York, and there remained in active practice till his retirement two or three years ago. In 1869 he established the New York Ophthalmic and Aural Institute, and maintained supreme control of it for some thirty-eight years. During this time about 340,000 cases were treated in the dispensary and the hospital, and of this vast number a great proportion, and especially those that presented any element of seriousness, uncertainty, or singularity, came under his personal observation. Here every week day, except when lecturing at the college, he spent habitually three or four hours, examining, operating, and teaching. For, from the first, the Institute was much more than a mere dispensary and hospital. It was used as an effective means for teaching ophthalmology, and great numbers of men from all parts of the country, including some of the most distinguished American ophthalmologists, received their instruction there. Of most of these, it is safe to say, that here they acquired their real foundation in ophthalmology, and some among them have gratefully acknowledged that to Herman Knapp they owe all that they know. Certainly there were very many to whom his demonstrations and instruction were revelations of what a scientific method should be, and to whom his energy, enthusiasm, and love of truth were a lasting inspiration.

From 1882 to 1888 he held the position of professor of ophthalmology in the University Medical College, and from 1888 to 1902 the same chair in the College of Physicians and Surgeons. In 1902 he retired from the latter with the title of professor emeritus.

Dr. Knapp's private practice was enormous. From eight till one every day his waiting room was crowded with patients. An unusual proportion of these, moreover, were cases sent to him in consultation from all parts of the country—cases whose obscurity or importance required accurate and detailed examination. While seeing so many necessarily involved rapidity of examination, it did not in his case imply superficiality. Often devolving the minutiae of refractive work upon his associates, he let no other important aspect of his cases escape

him. His mind had that trained alertness that enabled him to grasp the salient points of a case at a glance, and go directly to the heart of the matter, both in respect of diagnosis and treatment. So, too, his notes describing any important condition were models of directness, brevity, and precision. He was a master of ophthalmoscopy and extremely skilful in the estimation of refraction by the direct method. As a therapist he seemed to have that sort of intuitive judgment which enabled him to pick out, without rendering any special reason for it, the treatment appropriate to the case in hand. In operative work he was deliberate, but never slow; courageous, but not rash; cool, methodical, judicious, resourceful. In this as in other things he sedulously avoided all show and pretense; and his wide knowledge and experience were combined with a careful study of operative technique and a sturdy common sense, which led to the most successful results. In the major operations particularly, such as cataract and iridectomy, he was specially skilful, careful, and resourceful; and in these he won a deservedly high measure of success and was universally regarded as a master.

Dr. Knapp's ingenuity is attested by a number of inventions, all having a peculiarly practical character. Among them may be mentioned his head rest for the Helmholtz ophthalmometer, his ophthalmoscope, his apparatus for demonstrating the course of the rays in astigmatism, his ophthalmoscope, his eye speculum, lid clamp, cystotome, knife needle, roller forceps, and operating chair.

A most important contribution made by Dr. Knapp to the progress of ophthalmology in America was the establishment in 1869 of the Archives of Ophthalmology and Otology—later divided into the Archives of Ophthalmology and the Archives of Otology, and published also in Germany as the *Archiv. f. Augenheilkunde* and *Zeitschrift f. Ohrenheilkunde*. In this publication he always attempted to maintain a high degree of excellence, admitting such original contributions only as seemed of real value, and striving to present in addition a serviceable abstract of all important original contributions elsewhere published.

His own contributions to literature were very extensive. His work on intraocular tumors, which appeared in German in 1868 and in English in 1869, brought him great and wide reputation. It was, indeed, probably the first thing to make him universally known and was accepted everywhere as an authority. Another important work—im-

portant because, like the other, it was authoritative, original, lucid, practical—was his monograph on operations in Norris and Oliver's System. This filling over 160 pages, was almost a book in itself. But the great bulk of what he wrote appeared as papers published in the Archives and other journals. Collected they would fill many volumes and would afford a very fair idea of the progress of ophthalmology during the past fifty years.

Surprise was often expressed that he did not write a text book on ophthalmology. Asked himself why he did not, he characteristically answered that to make a re-hash he was unwilling, to write an original treatise he was not competent. The world will regret his decision, for he combined three capital qualifications—unequalled experience in all phases of ophthalmology, a minute and extensive acquaintance with the literature, and a judgment and sense of proportion which would have enabled him to give each topic its proper allotment of space and emphasis.

In medical societies, local, national, and international, Dr. Knapp was always a prominent figure—his papers and discussions being received everywhere with respectful attention. The reverse of oratorical, and handicapped by some difficulties in expression, which always clung to him in spite of his careful study of English, he yet had so much of importance to say that few felt that they would willingly lose any part of his communications.

It remains to speak of his character as a man. Few men have been more misunderstood. His obvious characteristics, and the only ones that some carried away from a chance meeting, were his boundless vitality, energy, and enthusiasm, his rather blunt directness of speech and manner, his absolute independence that made no distinction between rich and poor, and the frankness with which he opposed anything that seemed to him wrong and with which he exposed anything like bombast or pretense. From these first impressions some gathered that he was cold and hard and had little regard for the feelings or opinions of others. Longer acquaintance soon modified this view. It showed him to be tolerant of honest mistakes in others, prompt to acknowledge mistakes of his own; open-minded and broad-minded; fair and candid in argument; seeking and always admitting the truth. If forty years of teaching had made him appear somewhat positive and dogmatic, he yet all his life retained the rare quality of being always as ready to learn as to teach. If he had the profound erudition of the scholar, he had

also the overruling common sense and the progressive spirit of the truly practical man. If he gave credit sparingly, it was evidently because his standard was high, and praise from him was prized all the more, because it was not lightly awarded. A somewhat stern critic of others, he was equally critical of himself.

Those who observed him from day to day quickly learned that to the call of duty he was unswervingly obedient. Dr. Parkhurst fitly said of him that his profession was his religion. To it, indeed, he dedicated his life.

As one got to know him better, it was soon found, too, that to a singular degree he had the simplicity that marks true greatness. Never was man more unostentatious. Testimonials, dinners, celebrations were offered to him in vain. He would have none of them.

Those who penetrated still deeper into his personality discovered the real kindness of the man, the depths of feeling beneath the unemotional exterior, the sincerity and value of his advice, and his readiness to help those that he deemed worthy of help, whether it were some struggling colleague, or the poor to whom, as we all knew, he gave the most unstinted service.

By the scientific world in general, Herman Knapp will be remembered as one who, beginning with his pioneer work under Helmholtz, for nearly fifty years continually enriched ophthalmology by his important contributions. By Americans he will be honored as the man who did more than any other to introduce scientific ophthalmology into this country, and who by example and precept established the science on a firm footing here. By the many who were fortunate enough to be under his tutelage, he will be revered as an inspiring example, an informing teacher, a model clinician, a helpful counsellor and a true friend.

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SOCIETIES.

NOTES FROM THE AMERICAN MEDICAL ASSOCIATION— LOS ANGELES.

F. B. KELLOGG, M. D.,

Los Angeles, Cal.

(*Concluded.*)

19. Subhyaloid and Vitreous Hemorrhages.

HIRAM WOODS, Baltimore.

Abst.—The paper consists in chief of experience of number of clinical observers, who either sent to author accounts of cases or gave him their impressions based on extensive clinical experience. Stress is laid on necessity of making a diagnosis of general condition in all these intraocular hemorrhages. After tests for syphilis and tuberculosis, examinations of urine and stools may be needed if correct diagnosis is hoped for. The author thinks evidence bears out opinion that when these hemorrhages are accompanied by high blood pressure they are not infrequently earliest symptoms of chronic nephritis or arteriosclerosis; that even when these conditions do not clinically appear and eye apparently gets well, the patient should still be regarded with suspicion. Study of intraocular hemorrhages brings us down to infection and toxic absorption as the usual cause, and that beginning nephritis, tuberculosis and defective metabolism are responsible for most of them.

The general concensus of opinion was that in persons past middle life the cause was usually found in a degenerative condition of the tissues consequent upon kidney or other organic lesions and associated with high blood pressure. In young persons the cause was mysterious and obscure. The hemorrhages would occur without rhyme or reason—as likely in the middle of the night during sleep as after violent exercise. One suspicious condition and one only was remarked in several of these cases, viz., indicanuria.

Dr. Roberts, of Pasadena, mentioned one case of recurrent venous hemorrhage which ceased after the administration of hamamelis tincture. Recurrent subconjunctival hemorrhages in young people should lead to careful ophthalmoscopic examination to see if there were also retinal hemorrhages. In which case immediate examination of blood pressure should follow.

21. Shortening of an Ocular Muscle by Tucking.

H. W. WOODRUFF, Joliet, Ill.

Abst.—Ordinary advancement operations usually not considered unsafe. Perforation of sclera, corneal ulceration and even loss of eye have been occasional sequelæ. Insecurity of sutures in both muscle and sclera is generally admitted. It has been shown also that in advancement muscle adheres to old insertion as well as to new one and, therefore, increased effect is due to shortening and not to advantage of new insertion. None of these objections can be found in tucking operation in which original insertion is preserved. The making of a simple tuck, using catgut suture tied in muscle, according to the method of Worth, and the preserving of the capsule intact, except for the two incisions along the muscle borders, are the important features. Sixty-nine degrees of strabismus may be corrected by combined tuckings and tenotomies. The operation is safe, effective, devoid of permanent deformity and easy to perform under local anesthesia.

Technique of operation: 20-30 m. of cocain, 1 per cent. with 5 m. epinephrin are injected under the conjunctiva and the bleb reduced by massage. Vertical incision over tendon insertion 15 mm.. Conjunctiva dissected back for 15-20 mm.. Flap retracted by assistant and incision along upper and lower borders of muscle as far back as possible. The muscle is dissected up from the ball and a suture is then passed as far as desirable from the cornea thru one border of the muscle embracing $\frac{1}{4}$ of its middle from below up; this is tied and the middle again passed thru the muscle behind the knot from above downward; it is then passed beneath the border of the muscle to the tendon attachment thru which it is passed transversely to the extent of $\frac{1}{4}$ of the width of the tendon. The other edge of the muscle is treated in the same manner and the sutures then tied. The conjunctiva is then brought together with a silk suture.

20 Report of the Committee on Collective Investigation Concerning the Ocular Muscles.

LUCIEN HOWE, Buffalo, N. Y.; HOWARD F. HANSELL and THEODORE B. SCHNEIDEMANN, Philadelphia, Pa.

Abst.—The report this year is devoted largely to arranging the data thus far collected, and in making clear the general plan of the investigation. As the relation between accommodation and convergence is so intimate, a knowledge of the intraocular muscles must form the foundation of a study of the extraocular groups. As to the normal range of accommodation at different ages we have agreed to accept practically the curves of Donders as modified by Hess. The study of influence of drugs on accommodation has been continued. This was postponed one year.

2. Healing of Iridectomy Wounds and Thoughts on Its Influence on Glaucoma.

ADOLF ALT, St. Louis, Mo.

Abst.—Iridectomy wounds heal usually when the iris is normal and always when the iris, as in glaucoma, is not normal. Henderson's statement, even if true, that in a normal iris wounds never heal, cannot

apply to glaucoma, although he makes use of it in explaining the action of an iridectomy, and compares it to a large crypt through which the aqueous can easily be absorbed. Whatever useful action an iridectomy produces must be due to the excision of a piece of iris tissue and not to the corneoscleral or scleral incision, which, even if it heals but partly, can never replace the normal filtering angle. Since, as shown by numerous photographs, iridectomy wounds in glaucomatous eyes heal, the excision of a piece of iris can have only one effect, that is to reduce the secretion of fluids into the eye.

3. The Significance of Nonsyphilitic Retinitis, based on a Study of the Subsequent History of One Hundred and Eighty-Seven Cases.
F. T. ROGERS, Providence, R. I.

Abst.—Paper prompted by absence of valuable therapeutic measures and the fact that grave import of retinal hemorrhages is not adequately described in text books and not well appreciated by many physicians. Classification of types of diseases and diseases with which it is commonly associated. Tables showing percentage of death, state of health of living patients, causes of death, and duration of life in 187 cases. Noticeable agreement between causes of death and the morbid conditions of health in living patients. Three-fourths of all cases of hemorrhagic retinitis either terminate fatally within a few years or suffer a marked impairment of health. The existence of any form of hemorrhagic retinitis is suggestive of present or future disease of either the nervous or circulatory system. The duration of life in albuminuric retinitis increases with the age of the patient. Three cases are cited to prove the possibility of reflex retinal hemorrhage.

5. A New Method in Operating for Ectropion.

A. EDWARD DAVIS, New York.

Abst. Object of the paper to present a new principle in operating for ectropion, which is applicable either singly or in combination with other methods, in all forms of atonic ectropion, and in all cases of cicatricial ectropion in which the tarsus itself is not destroyed. Steps of the operation are as follows: (1) A canthotomy is performed extending to and slightly beyond the orbital margin exposing the periosteum. (2) The edge of the lid including the cilia is pared off to a slightly greater extent than the piece of tarsus to be removed. (3) The skin and orbicular muscle are separated from the external canthal ligament and the outer edge of the tarsus. (4) A triangular piece of the tarsus is removed. (5) A No. 6 silk suture is used to fasten the outer extremity of the shortened tarsus to the outer rim of the orbit and the skin wound is closed with fine silk sutures.

6. The Immediate Removal of Traumatic Cataracts.

J. A. DONOVAN, Butte, Mont.

Abst.—The injured lens should be removed immediately or if local reaction has begun wait from four to six days and then remove. General anesthetic preferable. Extreme care necessary to save vitreous.

Lens may be extracted by suction, or cutting it up and washing it out, or combined or simple extraction. The rapid healing and little trouble following this operation more than compensate for increased risk.

7. The Medical Treatment of the Patient Before and After Cataract Extraction. D. W. GREENE, Dayton, O.

Abst.—Thorough preparation of the patient necessary for this operation. Cataract patient generally old and the presence of cataract is only one evidence of degenerative change through which individual is passing. Only small percentage of eyes lost through faulty technic alone; about ten per cent. of losses and indifferent results. Causes of losses from suppuration self-evident. Eight per cent. represents fair average of losses and poor result among indifferent operators. Primary suppurations have been studied from Daviel's time, and while number has been greatly reduced by antiseptic precaution, the fact remains that an eye infected by virulent germs is in great danger. Nonsuppurative inflammations are of great importance, and not well understood, and I hope that by calling attention to the subject, which has not received the study it deserves, others better qualified and having better laboratory facilities than I enjoy may be stimulated to study this subject.

9. The Intrusion of the Amnion as a Possible Cause of Congenital Cataract. OTTO LANDMAN, Toledo, O.

Abst.—Development of the fore-brain and growth of the primary optic vesicle. Development of optic cup. Development of lens and lens vesicle. Intrusion of amnion before lips of lens vesicle coalesce. Question of priority. The writer's claim of priority for the theory of amnion protrusion being a possible cause of some forms of congenital cataract.

12. Distortion of the Visual Fields Observed in a Series of 200 Cases of Brain Tumor.

HARVEY CUSHING, Baltimore.

Abst.—Particular reliance must be placed on perimeter as well as ophthalmoscope not only in making the diagnosis of tumor, but in determining the situation of the growth. This paper is the first of a series of four dealing with the deviations of the visual fields observed in a series of 200 cases of brain tumor. The use of the perimeter has been possible in 123 of the 200 cases. In seventy-seven cases it was precluded owing to blindness, the extreme youth of the patient, aphasia or mental deficiency, etc. Of the 123 cases, the fields were normal in twenty-seven, showed hemianopsia of one form or another in forty-two, and simple interlacing in fifty-three. Special attention is drawn to this last mentioned form of color distortion in connection with the various grades of choked disc.

13. Report of Nine Cases of Brain Tumor, with Remarks.

SHERMAN VOORHEES, Elmira, N. Y.

Abst.—Brain tumor frequently overlooked and confused with other

diseases which affect optic nerve. Ophthalmologists should not depend too strongly on papilledema for diagnosis of brain tumor, as considerable number of cases occur in which there is no optic nerve change. Ophthalmologists, especially those who do not have access to services of an expert neurologist, have to depend very largely on their own findings for diagnosis of brain neoplasms, and hence they should be as familiar with symptomatology as internist or surgeon, and not feel that examination of fundi is extent of their work, as no one symptom is sufficient for diagnosis, but taken in conjunction with others of the symptom complex the diagnosis is usually not difficult. Operation should be done as early as possible, and should be advised even though there is little prospect of benefiting the eye condition, as many other symptoms are relieved thereby. Report of cases.

15. Interstitial Keratitis of Tuberculous Origin, with Special Reference to Treatment with Tuberculin.

ROBERT SCOTT LAMB, Washington, D. C.

Abst.—Probably many cases of interstitial keratitis which are being treated in routine manner with antisyphilitic therapy and which do not respond are in reality of tuberculous origin and would be greatly benefited by early recognition of this fact. Tests with tuberculin of easy application are Moro's v. Pirquet's and Koch's old tuberculin. Preferably patients should be in a hospital. That these preparations are curative as well as tests, and treatment with them, in addition to hygiene and regimen, would bring about recovery in many cases. Smaller doses of these preparations seem to be more efficacious. Larger doses which produce more marked general reaction being harmful to individual, focal conditions in many cases showing temporary exacerbation of symptoms. These facts are brought to attention of ophthalmologists in order to stimulate their interest in the complete cure of the old chronic interstitial keratitis cases which do not respond to the usual treatment.

16. Tuberculin as a Diagnostic and Therapeutic Agent in the Treatment of Conjunctivitis Eczematosa (Phlyctenular Conjunctivitis and Keratitis), based on the Study of Fifty Cases.

RICHARD P. TIRNEN, Chicago.

Abst.—1. A consideration of conjunctivitis eczematosa with special reference to tuberculosis as an etiologic factor in its production. 2. A resume of the use of tuberculin as a diagnostic and therapeutic agent. 3. A consideration of the various tuberculin tests and their applicability to ocular maladies. 4. A report of fifty cases in which tuberculin was employed diagnostically and therapeutically. 5. Conclusions.

22. The Ocular Conjugate and Fusion Brain Centers; Only Two Axes of Ocular Rotations, and Only Two Planes of Reference.

G. C. SAVAGE, Nashville, Tenn.

Abst.—The conjugate centers of the extrinsic ocular muscles are nine, one for each pair of muscles concerned in cardinal and oblique

rotations. In cardinal horizontal versions one conjugate center and one pair of muscles. In cardinal vertical versions two conjugate centers and two pairs of muscles. In every oblique version three conjugate centers and three pairs of muscles and two fusion centers. The fusion single centers are twelve, one for each muscle. These are active only in oblique rotations and in heterophoric conditions. Cardinal rotations of all kinds are around only one of two axes, the vertical and horizontal; oblique rotations are around both simultaneously. By means of the two planes of reference, in Fig. 3, proof of the existence of the nine conjugate and the twelve fusion brain centers is available.

24. Changes Occurring in the Refraction of Corrected Ametropic Eyes.

WILLIAM ZENTMAYER, Philadelphia, Pa.

Abst.—Analysis of 550 ametropic eyes which had been refracted at periods varying in length from five to fifteen years. Eighty per cent. underwent a change either in the static refraction, the astigmatism, or both. The most frequent change in compound hyperopic eyes consisted in a disease with an increase in the astigmatism. In compound myopic eyes the most frequent change was an increase in the myopia with an increase of the astigmatism. As large a percentage of the compound hyperopic eyes underwent a change as did the compound myopic eyes. Astigmatism is sometimes acquired and sometimes lost. A change in the axis of astigmatism occurred in about 50 per cent. of the cases. There was no greater tendency towards an increase in hyperopia between 55 and 65 years of age than between 45 and 55 years of age.

25. Refraction Changes in Diabetes.

CASSIUS D. WESTCOTT and JOHN B. ELLIS, Chicago.

Abst.—The object of the paper is to call attention once more to the fact that diabetes may diminish as well as increase the refraction of the eye, and that the changes have no necessary relation to the amount of sugar in the urine. The authors review the literature and report four new cases, in one of which the disease caused first an increase in the refraction, then a decrease, and finally another increase. The other three cases show simply a transient diminution of the refraction. The various theories advanced to explain such changes are referred to, but none is regarded as satisfactory.

26. The Psychological Aspect of Refraction.

S. L. LEDBETTER, Birmingham, Ala.

Abst.—A large percentage of hypermetropes very easily fitted. Others are very difficult to fit and many perplexing problems arise when the patience of the refractionist is taxed to the utmost. Here a good knowledge of human nature and a strong personality are invaluable. The ability to handle people is worth more from a monetary standpoint than the knowledge of the business. There are two leading features in the psychologic relationship of the refractionist to the refracted. The one is the ability of the refractionist to induce

a mental attitude or relationship between the two, whereby he is enabled to obtain the coöperation and confidence of the patient for procuring satisfactory results. This is honorable and legitimate. The other is the using of these faculties for misleading the patient and taking advantage of his ignorance to drive a shrewd bargain. Comparison of motives which actuate the honest ophthalmologist and the quack.

SECTION ON LARYNGOLOGY AND OTOTOLOGY.

2. Treatment of Tuberculosis by Sanatorium Methods in the Southwest.

E. S. BULLOCK, Silver City, N. M.

Abst.—Sufficiently long residence in high, dry climate most important element in treatment of tuberculosis. Frequently patients unable to obtain this because of lack of funds. Advantages of sanatorium treatment. Importance of physician's personality. Tuberculin important adjunct, partly due to its efficiency in keeping patients under treatment. If carefully administered can be given without harm. If hypersusceptibility occurs it should be stopped. In most cases best results are obtained from repetition of dose just below that which produces reactions. Author's method of administering tuberculin in cases: running temperature between 99° and 100° F., consists in: beginning with very small dose and increasing slowly until there is drop in temperature. Dose maintained until temperature rises when it is increased until temperature drop again occurs. Tuberculin administration condemned in patients with average maximum temperature over 100° F. Homologous vaccines. Exercise. Treatment of the anemia. Diet. Success of treatment of laryngeal tuberculosis with formaldehyde.

3. Histologic Examination of the Faucial Tonsils, with Reference to Tuberculosis.

E. C. SEWALL, San Francisco, Cal.

Abst.—Covering a period of some years, all the tonsils removed in the clinic of Cooper Medical College, in the service of Prof. Adolph Barkan, and in my private practice, have been examined histologically in the pathologic department of the college, under the direction of Prof. William Ophüls. Especial attention has been given to the determination of tuberculous lesions. There have been in all over 1,750 tonsils sectioned, representing approximately half that number of patients. A certain large percentage of these cases have been carefully examined and observed in the clinic for children's diseases in charge of Prof. Langley Porter. Also by means of notices many have been re-examined within the past few months and the clinical histories obtained. Special attention has been given to glandular involvement and the effect thereon of extirpation of the tonsils.

SYMPOSIUM ON DISEASES OF THE FRONTAL SINUS.

8. Discussion of the Conditions in the Frontal Sinus which Require an External Operation.

C. M. COBB, Boston, Mass.

Abst.—The publication of Killian's method led to many unnecessary operations even to operation in many cases in which no disease of the frontal sinus existed. This was caused, very largely, by the mistaken idea that the operation left no deformity of the face. Many papers were published solely to show how little deformity resulted and the diseased conditions which made the operation necessary were hardly discussed. Indications for external operation; pain and deficient drainage which do not yield to intranasal treatment; bulging of the cavity or a discharging external fistula; symptoms of cerebral trouble; general ill health. The main objections to the operation are that it is not free from danger; that a cure is by no means certain and that the deformity is often great.

9. Discussion of the Indications for Intranasal Operations for the Relief of Frontal Sinus Disease.

HARMON SMITH, New York.

Abst.—If no evidence exists that pus has broken thru external plate or frontal sinus, or invaded orbit thru necrosis of floor, it is always possible to evacuate pus and dry cavity by internal operative means. To justify procedure unmistakable evidence of involvement must be present; radiograph must show ample room to exist between inner and outer plate for instrumentation, and also demonstrate absence of separate cavity blocked off from main sinus by bony septa. Advantages of the internal over the external operation are: 1. Avoidance of unsightly scars or deformities. 2. Acceptance of less dangerous operative procedure, as proven by statistics. 3. Preservation of periosteal lining to the sinus. 4. Use of a route for drainage, where the tissues have already established an immunity to invading germ, and avoidance of subsequent periosteitis associated with pain. 5. Successful outcome in majority of cases in which operator is adequately equipped and employs the proper technique with perseverance.

10. Report of Twenty-eight Killian Operations.

HENRY HORN, San Francisco.

Abst.—Operative indications from the clinical and sociologic standpoint. Substitutes for the Killian operation and why these are now possible. With what sort of a cure should the surgeon be satisfied. A comparison of diagnostic aids; transillumination, X-ray photography. Negative pressure. How negative pressure may give a differential diagnosis so that a complete Killian operation is avoided. Operation. Method of after treatment. Time of after treatment much reduced by the use negative pressure. Brief report of the cases. What is a cure? How is an absolute cure determined? A clinical cure is not necessarily an anatomic one. Cosmetic results. Paraffin injections. Complications. Conclusion.

11. The Recognition of a Serous Labyrinthitis.

J. R. FLETCHER, Chicago.

Abst.—Reasons for serious consideration of it. How and why it occurs. Points of differential diagnosis between serous, suppurative and hyperemia. Labyrinthitis and hemorrhage into the labyrinth. Serous labyrinthitis a contraindication for the labyrinth operation. Prognosis. Summary.

12. Report of Two Unusual Cases of Nasal Polypi.

CHARLES W. KELLOGG, Charleston, S. C.

Abst.—Two sisters, aged 10 and 12, were brought to me three years ago. The noses of both were full of polypi, which projected from the nostrils. Both noses were much deformed by spreading and flattening, but not separation of the nasal bones. Breathing was entirely thru the mouth and both were slightly deaf. The trouble was first noticed in the older when 7 years old, and in the younger when 5. Numerous operations had been performed by several surgeons, but the growths returned rapidly. Under chloroform the polypi were again removed and all sinuses, except frontal, were curetted. Hemorrhage was profuse but easily controlled. The growths returned rapidly. Killian's operation was performed on the younger. Frontal sinus normal, nasal cavities and other sinuses cleared thru opening on left side. There has been no return; hearing and general condition greatly improved.

13. Report of a Case of Primary Infection of the Sigmoid and Jugular Sinuses.

SHERMAN VOORHEES, Elmira, N. Y.

Abst.—Patient, a woman aged 56. Acute middle ear abscess; drum ruptured spontaneously, but did not give free drainage; free incision of membrana tympani; profuse pus discharge for three weeks. Admission to hospital; morning temperature 102.2°, evening 104.2° F., no chill; leukocyte count 11,500, 85 per cent. polynuclear; temperature ran between 99° and 103° F. until fourth day, when at 9 P. M. it was 105.4° F., followed by marked chill. Immediate operation. Mastoid not infected; lateral sinus thrombosed. Free hemorrhage established from torcular end but not from bulb. Ligation and resection of jugular vein and its branches. Temperature came to normal but on second day after operation began rising, reaching 103.2° F. on third day. Injection of antistreptococcus serum. Metastasis into hip and thigh, and later into bladder, with free hemorrhage from bladder. Death on nineteenth day after operation.

SYMPOSIUM ON THE RELATIONS OF THE NASAL ACCESSORY SINUSES TO DISEASES OF THE EYE.

14. Anatomic Conditions Which Have a Practical Bearing on Relations Between Diseases of the Nasal Accessory Sinuses and Diseases of the Eye.

W. E. SAUER, St. Louis.

Abst.—These are (1) the proximity of the sinuses to the orbit, being separated only by bony laminae of extreme thinness, favoring transportation of infectious material. The thin periosteum of the orbit and

sinuses offering only feeble resistance; (2) dehiscences admitting of the ready extension of inflammation; (3) presence of minute venous apertures in the sinus walls thru which infectious agents may pass; (4) the close relationship of the venous and lymphatic circulation of the orbit to that of the nose and sinuses; (5) the identical arterial blood supply; (6) the intimate relation of the optic nerve to the sphenoidal sinus and the posterior ethmoidal cell; the nerve at times being separated from these sinuses by the merest sponge-like bone, and the sphenoidal orifice occasionally on the level with or even above the nerve, and one sphenoid not infrequently related closely to both nerves.

15. Eye Complications Arising From Diseases of the Nasal Accessory Sinuses.

A. H. ANDREWS, Chicago.

Abst.—The relation between the eye and the nose in some diseases has been fully demonstrated pathologically. In others the result of treatment has been such as to leave no doubt regarding the nasal factor in the etiology. In other cases the relation has been assumed, but further investigation and observation will be necessary before the relation can be understood or accepted. Orbital cellulitis by direct extension, dacryocystitis and conjunctivitis by infections from the nose, heterophoria by interference with the motor nerves, ocular pain of nasal origin, and optic nerve diseases are considered.

16. Operative Treatment for the Relief of Suppurative Sinus Diseases Producing Orbital Complications.

J. H. BRYAN, Washington, D. C.

Abst.—Sinuses most frequently causing orbital complications are frontal, ethmoidal and sphenoidal; maxillary sinuses rarely acting as causative factors in disturbances of eye. Operative treatment consists of intranasal route, and external or more radical method. Intranasal route is applicable to disease of ethmoid cells and sphenoidal cavity; and consists in removal of middle turbinate, opening ethmoid cells with rectangular knife, and removal by curette or choncotome; or complete exenteration by Ballenger's knife. Sphenoid can often be approached by same route and opened by gouge and curette or forceps, bent at various angles. Frontal sinus can sometimes be entered by intranasal route after removal of middle turbinate and anterior ethmoid cells by means of curette or electric burr, but it is uncertain and dangerous. In majority of cases it is necessary to employ external or more radical operation. Killian's method offers best chances for complete success. Frontal sinus can be obliterated, ethmoid cells removed and permanent opening left in sphenoid.

17. Improved Technique for Skin Grafting in the Radical Mastoid.

C. F. WELTY, San Francisco.

Abst.—In my preliminary report of the improved technique of the Thiersch graft, I reported eighteen patients operated on. The graft was applied four days following operation in all instances. This

report will deal with a series of cases in which the graft was applied at the time of operation. The ultimate conclusions cannot be accurately drawn for the following reasons: First, the small number of patients operated on; second, five of the cases were more or less complicated by existing lesions prior to operation. However, sufficient evidence can be presented to unqualifiedly recommend the primary graft, as it requires but one anesthetic; besides the patients leave the hospital in a shorter time. Complete dermatization is not so satisfactory as with the secondary operation, for obvious reasons.

SYMPOSIUM ON THE RELATIONS BETWEEN MIDDLE EAR DISEASES AND CONDITIONS IN THE NOSE AND THROAT.

19. The Influence of Climate on Middle Ear Diseases.

J. J. PATTEE, Pueblo, Colo.

Abst. Relations between middle ear disease and conditions of nose and throat have strengthened as study has progressed. Their former arbitrary separation has been outgrown and their interdependence established. Middle ear disease presupposes abnormal upper respiratory tract. Climatic treatment, *per se*, not sufficient, though a helpful adjunct and prophylactic agent. Dry climate: (a) its characteristics; (b) effects of; (c) environments accompanying. Influence of dry climate on: (a) taking cold; (b) adenoids; (c) nasal conditions; (1) catarrhal; (2) obstructions; (3) hypertrophic rhinitis; (4) atrophic rhinitis. Acute catarrhal otitis media seemingly of shorter duration. Chronic catarrhal otitis media and its exacerbations are benefited. Dry elevated climate causes amelioration of symptoms of otitis media in the tuberculous. Ideal climate favors results of intranasal operations.

20. How Far May Conditions in the Nose and Throat Be Responsible for Middle Ear Disease.

W. R. MURRAY, Minneapolis.

Abst.—Anatomic and clinical relationship of the middle ear to the upper respiratory tract. Sources of middle ear involvement. In what way does nasal obstruction cause ear complications? Intranasal and nasopharyngeal diseases that may cause diseases of the middle ear. Period of life when nasal disease is most likely to cause middle ear complications. Results of the acute infectious diseases on the middle ear. To what extent will the presence of nasopharyngeal obstruction influence middle ear involvement during an attack of an acute infectious disease. Percentage of cases of adenoids in children complicated by middle ear involvement. Percentage of cases of middle ear diseases having their origin in adult life, and due to abnormal conditions in the nose and throat. Influence of diseases of the nasal accessory sinuses on diseases of the middle ear. Middle ear involvement as a sequel to intranasal surgery. Conclusions.

21. What Improvement Can Rationally Be Expected From Treatment Applied to the Nose and Throat in Cases of Middle Ear Deafness.

J. F. BARNHILL, Indianapolis.

Abst.—Normal hearing is dependent on a healthful environment of the hearing apparatus. Proper action of the tubopalatal muscles a necessity to good hearing. The influence of poor ventilation of the nose and nasopharynx on hearing. Impaired venous circulation in the middle ear and Eustachian tube a cause of impaired function. The effects on hearing of hypertrophy or deformity of the nose or throat. The constant menace to the ear from the presence of pathogenic bacteria in the auditory environs. Since the greatest percentage of all aural affection have their beginning in and are often perpetuated by disease of the nose, nasopharynx and pharynx, the early treatment of affections in these regions is of first value toward improvement of aural function, and such treatment at all times during the progress of the aural affection is necessary to cure or improvement of function.

NEW YORK STATE HOMŒOPATHIC MEDICAL SOCIETY.

ORANDO S. RITCH, M. D., PRESIDENT.

The 45th semi-annual meeting will be held in New York City, in the second week of October, 1911, commencing Tuesday morning, the 10th, and terminating on the 14th—Saturday afternoon.

Tuesday and Wednesday will be devoted strictly to the regular work of the society, at the New York Homœopathic Medical College and Hospital, Sixty-fourth Street and Eastern Boulevard.

Thursday, Friday and Saturday special clinics, in all branches, will be conducted simultaneously each morning and afternoon at the principal hospitals under homœopathic control in the borough of Manhattan.

Headquarters will be at the Hotel Savoy, Fifty-ninth Street and Fifth Avenue, where special rates will be given the visiting members. Reservations should be made as early as possible.

A banquet will be served at the hotel Wednesday evening; owing to the hospitality of the local profession, the cost to visiting members will be below what one would expect to pay (for such a menu) at this noted place. Dr. John E. Wilson will be the toastmaster.

A free bus, it is planned, will operate between the subway station at Columbus Circle to the Flower Hospital, stopping at the Savoy.

The committee makes no provision for Tuesday evening, feeling that the out-of-town members will desire to have one evening for their own plans.

The County Society extends a cordial welcome to attend its regular

monthly meeting on Wednesday evening, at the Academy of Medicine, 16 West Forty-third Street.

BERT B. CLARK, *Secretary*.

SOUTHERN HOMŒOPATHIC ASSOCIATION.

President Robert A. Hicks—at the suggestion of Willis Young, Chairman of the Committee on Arrangements, in St. Louis—has changed the date of this meeting from October 18, 19, 20, to *October 4, 5, 6*, as the earlier date will give us reduced rates on account of special attractions which have been planned for St. Louis at that time.

These attractions, which the ever active resourceful Dr. Young offers us, are: the aviation meet, which is scheduled for the afternoon of the third; the Veiled Prophet's ball, for the evening of the third. October 4, 10 A. M., address of welcome by the President of the St. Louis Homœopathic Medical Society, then the regular order of business. October 5, 2 P. M., automobile ride around the city to aviation field, return to the hotel by 6 P. M.; banquet at Marquette Hotel, including the ladies, 9 P. M. October 6, 9 A. M., the business session will be called to order, the papers, being of unusual interest, merit a large attendance. The real treat will be an address from the Field Secretary, Dr. H. R. Arndt.

With such an array of festivities, Dr. Young bids fair to eclipse all predecessors of Chairman of Committees on Arrangements.

A most hearty invitation is extended to all.

LEE NORMAN, *Secretary*.

ERIE COUNTY MEDICAL SOCIETY.

STANDARDIZE MIDWIVES.

WHEREAS, In the larger cities in the state of New York nearly half of the births are attended by midwives, many of whom are wholly untrained for the responsible work which they assume; be it

Resolved, That the Medical Society of the County of Erie favors the adoption of an educational standard similar in character to that which is now provided for trained nurses, and that it recommends that the State Medical Society take such action as may lead to the establishment of a standard, the requirement of adequate examinations, with universal registration of all midwives practicing in this State.

ABSTRACTS.

The Sterilization of Solutions for Hypodermatic Injection. (A. Leasure, Phar. D.) Very little information is obtainable upon this point in the various official handbooks.

We know, from researches, that a very large number of germs are usually present in nonsterilized solutions. What is the use, says Schimmelbusch, of strict asepsis in the removal of a sebaceous cyst, for example, if while obtaining anesthesia, we inject thousands of germs into the operative field?

Of all the processes of sterilization, the most trustworthy and the most absolute is the method which Chamberland recommended years ago in a celebrated treatise, concerning which Duclaux thus expressed himself: "We ought to heat solutions to 115° C., because at this temperature we are sure that there will remain no living spores." Unfortunately, according to some authors, many substances are altered by heat and thus cannot be sterilized by this method. I have shown, however, by personal investigation that the susceptibility of certain chemical substances towards the influence of heat, has been greatly exaggerated.

For example, solutions of cocain, morphin, strychnin, atropin, spartein, pilocarpin, eserine, etc., of oils and fats, of glycogen, and the solutions of most glucosides, are perfectly capable of sterilization by heat, provided one uses receptacles made of neutral glass. This does not mean that all the solutions which are employed for injection resist the action of high temperatures. These solutions we should sterilize upon the water bath, and at a temperature of only 100 degrees. The substances which stand this temperature are: solutions of the salts of hyoscyamin, scopolamin, aconitin, holocain, alypin, ergotin, sodium glycerophosphate, solutions of iodine and iodides, vasoline oil with calomel or mercury oxide. Lower temperatures—8 or 10 exposures to a temperature of 54° C.—are used for the sterilization of various therapeutic serums.

Finally, there are some substances, few in number, which cannot stand even moderate heat. Among these may be cited, the ferments, the organic extracts, sea water, mineral waters, colloidal preparations, certain unstable salts of mercury such as the lactate, cacodylate and the oxycyanide, iodoform, gray oil, calcium glycerophosphate, "606," etc. These substances must be prepared as aseptically as possible, namely, with the aid of sterile solvents and aseptic materials. The receptacles in which they are kept must be previously sterilized. These liquids, therefore, are not sterilized in the exact sense of the word. We have been seeking for a long time a process which would permit sterilization of solutions for injection, without the aid of heat.

Personally, I regard filtration as a rather unpractical and insufficiently reliable procedure.

There is no antiseptic which can be compared to ozone, for the purpose of sterilizing water. Thus, 0.60 g. of ozone bubbling in 1 cubic meter of spring water will suffice to destroy germs therein and to oxidize the organic materials. Unfortunately, the use of ozone is not practical in the sterilization of solutions for injection, inasmuch as the composition of the latter is apt to be seriously altered.

After an exposure to *ultraviolet rays* it is found upon examination with the ultramicroscope that the protoplasm of bacteria becomes brilliant and granular, these changes corresponding to the onset of coagulation similar to that of egg albumin or blood serum. The microbes are therefore fixed by the coagulation of these bodies under the influence of the rays. They also undergo certain changes, which have not been observed after the action of heat, hydrogen peroxide or other ordinary fixing agents—the color reactions of these germs are materially changed.

The sterilization of drinking water, in quantities as supplied to large cities, is now possible by the mercury vapor lamp. There are at present for sale a number of very practical domestic apparatus, which work very well. Among these may be mentioned the Cooper Hewitt lamp, the Nogier lamp, etc. The principle of this lamp consists of a cylindrical tube in which there is as complete a vacuum as possible. At each extremity of this tube there is a reservoir containing mercury, which is connected by a platinum wire to the source of the direct or continuous current. These wires are attached to two carbon electrodes and the lamp is held together by two metal clamps. In order to start the light, the vapor of mercury must be made incandescent, and for this purpose the metal is allowed to run from one electrode to the other by tipping the tube. In this manner a continuous stream of fluid is produced, which momentarily short-circuits the current. The very rich light is ultraviolet, and is produced by the incandescence of the vapor of mercury. The light persists as long as the current continues to pass. By attaching such a tube to the water faucet, one can have perfectly sterile water at a very moderate price.

I thought it would be interesting to determine whether this new method of sterilization could be employed for solutions for hypodermic injection. Apparently, from the results of my experiments, a special study must be made for each special substance to be examined, first, as the permeability of the solution, and second, the resistance of the solution to the decomposing action of the light. Thus, I have found that the saline solutions, the solutions of cacodylate, and of calcium glycerophosphate, are just as permeable as water, while solutions of cocain and morphin are less so. Solutions of caffein and some other alkaloids, as well as those of olive oil, are much less permeable. The least permeable solutions are the opaque or insoluble preparations, such

as those of colloidal salts. These solutions, therefore, must be exposed to the rays for a much longer time.

Regarding the decomposition of the solutions, those of silver nitrate, morphin, eserin, apomorphin, are but slightly decomposed by the ultraviolet rays. On the other hand, the rays can produce a decomposition of certain glucosides, they can also render some fatty substances acid and can oxidize certain alkaloids.

Sterilization with the ultraviolet rays presents certain disadvantages. Firstly, it can be applied only to solutions which fulfil the two conditions mentioned above, permeability and resistance against the decomposing effects of the light. Secondly, this method of sterilization cannot be effected without placing the fluids in open vessels, so that all parts of the fluid may be exposed to the direct influence of the light without any intervening glass which, as we know, intercepts the rays. Thus, the possibility of sterilizing fluids in bulbs or ampoules is excluded.

On the other hand, sterilization with the mercury vapor lamp offers certain advantages. It is economical, very rapid, and does not markedly raise the temperature of the fluid. Hence, the method is applicable to certain solutions which are susceptible to the action of heat, or are difficult to sterilize by heat.

To sum up: we should not consider as absolutely sterile any solutions except those which have been sterilized by heat. The use of the water bath for fifteen or thirty minutes, which is so commonly employed, is less reliable than the use of a good sterilizer.

A solution intended for injection and prepared aseptically, without subsequent sterilization, is not necessarily sterile, and in order to avoid confusion, such solutions should be labelled "Solution not sterilized, but prepared aseptically." Ozone is a powerful disinfecting agent, but can be used only in sterilizing water. The same may be said, for the present, regarding ultraviolet rays, altho the latter may be employed for the special substances which we have indicated above.—*N. Y. La Tribune Medicale*, Apl., 1911.

Physicians Must Report to the State Commissioner of Labor all patients suffering from poisoning by lead, phosphorus, arsenic or mercury, or from anthrax, or from compressed air illness. This is a new law of New York State, which went into effect on the 1st of September, 1911.

In the Vital Statistics of New York State, for July, 1911, we notice that 3,150 ophthalmia neonatorum outfits were distributed, and one case of that disease was reported. Among the deaths, 12 were attributed to exophthalmic goitre, 1 to diseases of the eye and adnexia, 12 to diseases of the ear, 7 to diseases of the larynx, and 5 to diseases of the pharynx.

Severe neuralgic pain over the bridge of the nose indicates pressure on the anterior ethmoidal nerve probably due to a high deviation of the nasal septum.—*A. J. of S.*

Many a distressing **frontal headache** may be relieved by reducing the hypertrophy of a middle turbinate, preferably by streaking with trichloroacetic acid.—*A. J. of S.*

The **healing of a mastoid** wound is often hastened by fewer dressings and allowing Nature to do her part in the reparative process.—*A. J. of S.*

A **peritonsillar abscess** as a rule is more painful than serious. But one should not forget that patients have died of suffocation and that erosion of a vessel may take place in the wall of the cavity and cause death.—*A. J. of S.*

A severe **sore feeling in the throat** is frequently complained of by nervous individuals. Close inspection will show numerous fine white spots surrounded by a red areola—herpes.—*A. J. of S.*

A small erosion of the trachea may give rise to a distressing **hemoptysis** which differs from a hemorrhage from the lungs in that there are no lung symptoms, no loss of weight or constitutional symptoms and in that the bleeding occurs in small lumps of clotted blood.—*A. J. of S.*

Pressure from a mediastinal tumor or enlarged tubercular glands will often give rise to an **irritative** condition of the **throat** which can in no way be relieved by local measures.—*A. J. of S.*

I feel tempted to say that the principal **obstacle to therapeutic progress** is the lack of the capacity for logical reasoning—the neglect of scientific experiment, and so on; but the difficulty may be more broadly compressed in the one term—psychic sclerosis. Men concentrate in certain directions, sclerosing in all others. Unfortunately, their chosen hobbies may be mere piffle, like spelling reform; or pathologic bric-a-brac, the acme being that malady of which a solitary case has been found.—Prof. Wm. Francis Waugh, Chicago, in *Critic and Guide*, August, 1911.

The Diagnostic Value of Dyschromatopsia in Nervous Diseases. *Journ. Nerv. and Men. Dis.*, June, 1911.

By "dyschromatopsia," Camp, of Ann Arbor, means a reversal, partial or complete, of the normal relations of the color fields. He has examined the case records at the University Hospital of Michigan, for cases showing this symptom, and reports the results of his investigation in the present communication. The results may be summarized as follows:

"Since it is demonstrated that dyschromatopsia occurs in both organic and functional nervous disease, its presence will be of little aid in differentiating between them. There is some reason to believe, however, that its presence might be valuable in differentiating between the different functional conditions. It occurs frequently in hysteria, and apparently does not occur in the other neuroses unless they are complicated by hysteria. It might be of value in the differential diagnosis of hysteria from neurasthenia, Graves' disease, idiopathic epilepsy, psychasthenia, and some of the psychoses, all conditions which

are frequently mistaken for hysteria. I have not found inversion or interlacing of the color fields in cases of multiple neuritis or in retrobulbar neuritis, though it might occur as it has been observed in various intoxications, and these same intoxications may also cause multiple neuritis. Dyschromatopsia is frequently found in cases of tabes dorsalis and, in my experience, not in other affections of the spinal cord; however, the number of cases reported is too small to permit any definite conclusions. Inversion or interlacing of the color fields seems to occur in brain lesions, if these lesions are generalized, but not from strictly localized lesions, and the nature of these lesions, whether they are circulatory, syphilitic inflammations, or due to trauma, apparently makes no difference. I should agree with Dr. Cushing that any inversion or interlacing of the color fields which might occur from brain tumor would probably be due to the general disturbance caused by the tumor, and it would, therefore, have no localizing value."

—Abstr., Aug., 1911, *Ophthalmoscope*.

BOOK REVIEWS.

PATHOLOGY AND BACTERIOLOGY. E. TREACHER COLLINS, F. R. C. S., Surgeon, Royal London Ophthalmic Hospital; Ophthalmic Surgeon, Charing Cross Hospital, and M. STEPHEN MAYOU, F. R. C. S., Surgeon and Pathologist, Central London Ophthalmic Hospital. Being Volume IV of AN INTERNATIONAL SYSTEM OF OPHTHALMIC PRACTICE, edited by WALTER L. PYLE, A. M., M. D., Philadelphia. 588 pages, 3 colored plates, and 237 figures in the text. Cloth, \$4.00; *net*. Philadelphia, P. Blakiston's Son & Co., 1911.

This is the kind of book that is worth reading, worth studying all through and that adds great value to the library. What is not new or original is a concise collaboration necessary for completeness of what is else scattered throughout the literature.

The successive chapters consider, respectively, the aberrations which occur in the eye in its process of evolution; new growths; changes from impaired nutrition; results of pernicious influences in the environment (three chapters); and involution or tissue degeneration. An appendix treats of laboratory technique, bacteriological and pathological.

This work takes its place at once as a standard authority, covering ground that no other book covers so satisfactorily. It bids fair to hold its position as an authority so long as its authors keep up to date by frequent revision.

Its clear, concise style, beautiful typography and illustrations, ensure its adoption as a text-book in every school of ophthalmology where English is read.

Some confusion is avoided by omission of the terms *nyctalopia* and *hemeralopia*, although these conditions are discussed. "The congenital forms are probably both due to some defective development of the percipient end organs in the retina." Speaking of the white dots observed in the retina: "No pathological examination of the retina in these cases has yet been made and their exact nature and position can only be conjectured." Congenital day-blindness has been called cone-blindness—the power of distinguishing colors is associated with the cones, gives great definition and clearness, and requires high intensity of light. "The symptoms usually present in congenital night blindness seem to indicate defective rod vision; the defective form sense occasionally encountered may have been due to some other cause super-added."

Shot-silk or watered-silk retina is due to slight inequalities in the level of the inner surface of the retina.

Uremia may be associated with transient amaurosis without ophthal-

moscopic signs, the pupil reacting freely to light. The blindness is rapid and usually complete; recovery may be rapid and complete, but sometimes hemiopia may be present for a short while. These "suggest that the amaurosis is due to the action of a toxic agent on the higher centers for vision. The poison which causes uremia has not, so far, been isolated."

Iodoform may cause amblyopia with central scotoma for colors. "Probably similar changes in the retinal ganglion cells and their synapses are produced as are found in alcohol-tobacco amblyopia. Experimental investigations on animals have shown changes in the cells of the central nervous system, but these have not yet been demonstrated in the retina."

"The smallest dose of quinine recorded as causing defect of sight is 5 grammes given in 38 hours."

"606, and other compounds of arsenic, given in large doses, have not yet been followed by primary optic atrophy; presumably, therefore, the harmful action is due to the anilin part of the compound in the case of the arylarsenates."

"Felix mas amblyopia is probably somewhat similar to quinine amblyopia." The whole matter of the formation of the intraocular fluid cannot yet be considered as definitely worked out. It has been proved that the ciliary body secretes intraocular fluid, and its rate is largely regulated by the blood pressure in the intraocular vessels. If the intraocular fluid were a transudation it would be produced also by the choroid and iris, and it would resemble lymph in composition. As yet there is no proof of any mechanism controlling the secretion of the intraocular fluid beyond the vasomotor mechanism affecting the blood supply of the interior of the eye. "The intraocular fluid has to pass through the ligamentum pectinatum into the veins, and the pressure of the fluid in the anterior chamber must be higher than that in the veins before it will pass into the blood stream. The excretion from the eye is, therefore, inhibited by the fall of the intraocular tension, by a rise of blood pressure in the absorbing veins, or by the spaces of Fontana becoming occluded." When the aqueous humor contains a large amount of albumin its exit is very slow, probably from difficulty in passing through the walls of the venous radicals. "Glaucoma from this cause, without blocking of the angle by the root of the iris, may occur." "The association between old age and glaucoma is probably due to general vascular sclerosis causing a rise in the general blood pressure, or localized sclerosis producing changes in the ligamentum pectinatum and the canal of Schlemm."

Cyclodialysis has for its object the reopening of the canal of Schlemm through retraction of the ciliary body and iris root by the ciliary muscle, the ligamentum pectinatum being separated from its attachment to the sclerotic. The operation also opens up a communication between the anterior chamber and the suprachoroidal lymph space.

It has been estimated that this operation secures permanent relief of tension in 30 per cent. of the cases; it sometimes fails because the ciliary body gains a fresh attachment to the sclerotic. "If a piece of the iris were removed at the time of the dialysis, or before new adhesions were formed, a more satisfactory result would probably follow since the canal of Schlemm would then be permanently opened up."

Ultraviolet rays may produce a chromolytic action in the retinal cells which, if prolonged, results in injurious effects. They have also caused: iritis, corneal cloudiness or slight erosions, mydriasis, conjunctival hyperemia, palpebral edema, lacrimation, photophobia, snow-blindness, ophthalmia electrica. If prolonged the exposure can cause degeneration and ultimate destruction of the capsular epithelium of the lens.

X-rays have no power of bleaching the visual purple.

Differentiation between streptococcus and pneumococcus in cultivation is sometimes difficult. "The presence of a small amount of taurocholate of soda in the media prevents the growth of the pneumococcus, but does not inhibit that of the streptococcus." "The variations in the different strains of streptococci make the use of antisera of little value, unless by accident a similar strain be used in the preparation."

A nonpathogenic form of pneumococcus has been isolated from the mouth and conjunctiva which is characterized by slowly liquefying gelatine and growing on potato. The most virulent forms are rarely present in the eye.

The gonococcus is the cause of two-thirds of all the cases of ophthalmia neonatorum.

The Koch-Weeks bacillus will live in distilled water for 7 hours; it may, therefore, be transmitted by washing in the same water; it is probably not carried in the air or dust because it seems to be killed by drying the discharge.

Lack of space forbids more extracts. Each of the bacteria is taken up in turn, its tests and differentiation given with how it affects the eye.

The only criticism we find with the book is that the index is not complete as it might be.

LECTURES ON HOMŒOPATHIC MATERIA MEDICA. *Second Edition.* By JAMES TYLER KENT, A. M., M. D., Professor of Materia Medica, Hering Medical College, Chicago, Ill. Author of "Repertory of the Homœopathic Materia Medica," and of "Lectures on Homœopathic Philosophy." 982 pages. Cloth, \$7.00, *net*; half morocco, \$8.00, *net*. Postage, 30 cents. Philadelphia, Boericke & Tafel, 1911.

To those familiar with this masterpiece we will merely state that many remedies have been added, many are in a new and later form of presentation, and the whole work has been revised.

Others should know this was a course of lectures to postgraduates with the colloquial style retained embodying the leading and fully proved remedies that have strong characteristics.

Symptoms are stated and grouped in a manner to bring out an image of each remedy, in order that pupils may *understand* a remedy as a whole and in parts rather than tire the memory. *Materia medica* may be understood, it can not be memorized.

We notice that under *kali bichromicum* "daylight brings on photophobia. Ulceration of the cornea. The ulcer is deep with pulsation in it. The eyes are much inflamed and red." The reviewer has not verified the pulsating ulcer. He considers the characteristic *kali bichromicum* corneal ulcer to be the *indolent* one, with no photophobia and with little or no redness of the eye.

Kent is a master, one of our great teachers ranking with Farrington; than this no higher praise need be given him. It is pitiful how the latter seems to be forgotten—now while Kent's enthusiasts have the stage; twenty-five years hence justice will be equally awarded to both.

The Journal of Ophthalmology, Otology and Laryngology

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Lancaster, Pa., and New York, November, 1911

No. 11

EDITORIAL.

CATARACT OPERATIONS.

FOR years ophthalmologists in general had settled down to a technique of cataract extraction with comparatively few variations.

All possible incisions had been tried, with and without conjunctival flaps and sutures; the various incisions of capsulotomy had been pictured, and all the changes rung on iridectomy.

Then was the ophthalmological world astounded by Major Smith with his extraction in the capsule—an operation easier to perform, certainly easier to understand, now that its steps have been described pictorially. Whether his marvelous success be attributed to his personal skill, judgment and experience, or to the fact that his Indian patients probably are very different from those encountered in this country, or even if he fail to come unscathed from the fire of criticism—certainly the movement to improve cataract extraction shows a new impulse.

Two radically new propositions now command attention—time alone can settle their value.

Vard H. Hulen, of Houston, Tex., presented at last June's Los Angeles meeting of the American Medical Association what was perhaps the most valuable paper of that session—"Vacuum Fixation of the Lens, and Flap Suture, in the Extraction of Cataract in Its Capsule." This appeals to one in that it ruptures the suspensory ligament by rotating it in its bed around the visual axis, and also by avoiding all pressure upon the eyeball.

But, although successful extractions were claimed, one naturally wonders at or admires the man who will add surely one millimeter (if not more) to the thickness of the lens. The "hollow pencil terminating

in a flat circular spoon 4 mm. in diameter with an opening in the center of the bowl connecting with the shaft tube" (which adheres by vacuum to the anterior surface of the lens) must open the limbus wound just so much wider and necessarily, we judge, would not fill the wound so perfectly as does the lens alone during its passage.

Homer E. Smith's preliminary capsulotomy for the extraction of immature cataract at any age seems to be a more important contribution if his claim stands the test of time: that with his technique the aqueous insinuates itself under what remains of the capsule allowing the lens—four to six hours later—to be extruded smoothly with comparatively gentle manipulation.

These two innovations have been described on page 262, of our July issue, and page 303 (August); it is hoped that some of our readers will try them and report in these pages their experience.

SYMPOSIUM—ETHMOIDITIS (*Concluded*).

CLINICAL OBSERVATIONS ANENT NASAL SINUSITIS.

A. WORRALL PALMER, M. D.,

New York City.

THE writer desires to call attention to the following personal and, he believes, original observations as the more general recognition and study of such individual conditions will ultimately assist in either better understanding the etiology and pathology of, or selecting the treatment for the disease with which they are associated.

First: Since making the resection operation for deflected septum I have been much surprised to find so frequently that the malposition of this tissue extends so far backward. Until doing this operation I must admit that I had no idea of the various tortuosity of this structure. In a large majority of the cases coming under my care during the last few years I have found the displacement extending into the middle third of the septum and even further—measuring anteroposteriorly. As we have all noticed, these deflections when linear (which I should roughly estimate occurs in 75 per cent. of all cases) usually extend from the incisor ridge diagonally upward and backward with the apex at about the articulation of the inferior border of the quadrangular cartilage and vertical plate of the ethmoid with the superior border of the vomer; and the apex is frequently surmounted by an exostosis which extends a considerable portion of its length.

Several times an extra conical bony thickening of this previously mentioned ridge, or an independent conical exostosis on the thin but deflected bone, has been found located from half to over three-quarters way back. These conical exostoses not only impinge on, but to a great extent or entirely imbued themselves into, the opposite structures of the lateral nasal wall; twice were these found pressing into the base of the inferior turbinal, twice into the mesial wall of the body of the ethmoid, and twelve or fifteen times into the middle turbinal—I should judge about at its origin from the ethmoid body.

Very few of these were recognized before operation either because the deflection anterior thereto obstructed the view thereof or even when such interference was slight because of the depth of their location. The two imbedded in the inferior turbinal and other few recognizable were diagnosed synechiæ because they were so deeply sunken that it was impossible to pass a probe between the impinging tissues.

In one case where the exostosis was unrecognizable before operation a neuralgia disappeared after removal; and in two cases a scurfy nasal discharge ceased; indicating that two cases of ethmoiditis were probably cured or, if not, the releasing of retained decomposing mucus from above these deeply situated deflections and exostoses relieved our patients of their crusty nasal discharge. Most of these cases were in clinic patients and unfortunately we were unable to follow them up to ascertain more results, but these few indicate to my mind that we should search thoroughly for such deep-seated and unrecognizable impingements of the sensitive structures during operation, and not be satisfied with correcting the portion of the deflection situated within the quadrangular cartilage, which condition I have not infrequently noticed in cases examined subsequent to operative procedures.

All but one case of the synechiæ upon which we have operated within the last two years have resolved themselves into these imbedded exostoses.

Second: When in a resection operation the bone above the level of the lower edge of the middle turbinal is removed we have noticed that there very frequently occurs a temporary secondary edema or obstruction of the naris with concomitant headache.

For a couple of days after the removal of the supporting splints there is an interval of improved respiration before what I call secondary edema or obstruction supervenes. This secondary swelling will last from two to five days.

If we bear in mind that such condition may take place, when we find such hyperplasia upon postoperative examination—or when the patient complains of this attack of headache—the operator had best wait a few days before making further operation to relieve the contact irritation. Meanwhile, application of soothing oil sprays is beneficial. Such swelling is only slightly or slowly amenable to the arteriole constrictants,—*c. g.*, adrenalin, etc., and further it need be remembered that such remedies would materially interfere with adhesions of the mucoperiosteum.

Third: For two or three years I have casually noticed in cases of chronic suppurative sinus disease an angular depression or crack in the mucocutaneous juncture at the anterior and upper extremity of the anterior choanæ. So frequently was this observed that I have considered it of sufficient value to include it in the presumptive symptoms of suppurative sinusitis in my lectures this winter. In most of the cases observed the condition was bilateral, therefore one may think it a mere coincidence in the physical conformity of the nose, but this last winter I have seen two unilateral cases where the crack corresponded to the diseased side—one case where microscopic examination demonstrated a purulent ethmoiditis on one side with a catarrhal involvement of the opposite, in which the crack was on the side of the purulent disease but not on the other, and a fourth case—a counterpart of the latter—in which the differentiation was made on the objective appearance of the discharge. It would seem quite natural that a necrosis of tissue like this might occur from the constant or very frequent bathing of it with an acrid or purulent discharge like that from a purulent sinusitis, but strange is it that such is not at the bottom of the nostril. My theory is that the noxa in these cases is cleaned from the lower angle of the cutaneous nostril by the ordinary blowing of the nose while conversely a drop or so may be, and probably is, retained in the small sulcus in the anterior angle of the naris formed by the normal incurvation of the lower edge of the inferior lateral cartilage of the nose at the juncture of its two wings. This retention is further aided by the ordinary way a person holds the nose closed with the handkerchief while blowing it.

Fourth: The prevalence of nasal accessory sinus disease as a sequela in cases of epidemic grip this winter afforded me the opportunity of observing another peculiar symptom.

Case I. A lady suffered with the grip followed by torticollis (?) and at first a moderate dull heavy headache, principally in the forehead and occiput; afterward the headache became so aggravated and was accompanied by such copious nasal mucous discharge that the family physician suspected sinus involvement, so called me in consultation. His diagnosis I corroborated, considering the frontal, ethmoidal and probably sphenoidal sinuses to be involved. Although eventually this case was harassing and tedious, still two or three daily treatments with a continuous hot water douche, steam vapor of tincture benzoin comp. and Dowling tamponades would materially relieve the headache;

simultaneously the cervical pain and stiffness diminished. Then the patient would object to further treatment on account of the discomfort. A second and third exacerbation of headache with accompanying cervical pain, etc., supervened, which were finally cured by satisfactory treatment of the ethmoiditis.

On account of the patient being of a neurotic and gouty diathesis the connection of these symptoms was very naturally overlooked.

Case II. Shortly thereafter I saw another post grip unilateral sinusitis, which also had a marked stiffness of the same side of neck as the sinus involvement.

In this case decided sensitiveness on pressure was found along the anterior and posterior border of the sterno-cleido-mastoid, over the chains of cervical lymphatics, and in this case two or three individual indurated glands were detected toward the end of the trouble.

Upon this last finding we carefully palpated the cervical muscles and found neither the pain in nor tenseness of that tissue which always is present in such cervical myalgia, therefore we concluded that the stiffness and pain were due to a subacute lymphadenitis of the glands comprising the anterior and posterior cervical chain consequent upon their filtration of the noxæ taken in from the sinus inflammation.

Then it was I concluded that the previous case was of the same character.

Case III. A gentleman 55 years old, who had been treated by his family physician for grip and a subsequent otitis media suppurativa, was referred to me for the removal of nasal polypi. Three were removed causing severe hemorrhage necessitating tamponage, although I endeavored to staunch it with nature's plug—blood coagulated with pure hydrogen dioxide. He originally had the characteristic discharge accompanying polypi to a profuse degree. The day following the operation a stiffness of the neck appeared and on the second a recurrence of the otorrhœa. Here induration and sensitiveness of one or two glands in the posterior cervical chain were barely detectable. On account of business engagements he postponed the removal of the remaining polypi for several weeks, during which time he had three exacerbations of inflammation of the left ethmoidal cells—in common parlance "a cold" in one side of his head. About twenty-four hours previous to and during the discharge and the ordinary dull full headache he had a stiffness of the neck corresponding to the side of ethmoiditis. The latter—the cervical stiffness—was more marked in this

case than the ethmoidal headache, as shown by the patient's remark immediately before the last attack, that he thought one was coming because of his stiff neck. The cervical sensitiveness was located over lymphatic chains each time and not in the muscular areas.

Beside the above, five similar cases have come under my observation.

Judging from these cases when a grip patient complains of pains and stiffness of neck, especially if accompanied by headache, before making one off hand diagnosis of torticollis and prescribing for a myalgic condition, which is the most natural procedure, we would suggest a careful examination of the cervical region to ascertain the exact locality of the pain or sensitiveness—as some case similar to those above narrated may be found—and then examine for the early symptoms of ethmoiditis, thereby finding the disease in an earlier stage when more amenable to medication.

260 West 57th Street.

Irritative pharyngitis or laryngitis has been relieved by slowly swallowing a little Komar; the tickling, at least, disappeared.

Argyrol stains on linen, or the skin, may be immediately and permanently removed by immersion in a 1 to 500 bichloride of mercury solution.

Some ophthalmic surgeons use 25 per cent. argyrol solution for several days previous to cataract operations, iridectomy, etc., to prevent infection.

In the posterior nares and larynx a 20 per cent. argyrol solution may be used by atomizer, but the 50 per cent. argyrol solution should be used only on an applicator.

SYMPOSIUM—ROENTGEN RAY FLASH TREATMENT.

FURTHER USES OF THE X-RAY FLASH.

E. D. BROOKS, M. D.,

Kalamazoo, Mich.

SINCE my report of a year ago, read before the Michigan State Society, I have had the following experiences, typical of experiments in various disorders in which I thought it probable that its effect in stimulating nutrition or inhibiting bacterial activity or destroying neoplasms might be of avail. Not all—perhaps not a majority of the efforts—were successful. None of them, so far as I could ascertain, were harmful, either generally or locally. Some of the effects were not anticipated, and were of the nature of accidental discovery. As in no case was a cure promised, the resulting failures were not seriously disappointing. Acute inflammatory conditions were purposely avoided in my choice of cases, perhaps unwarrantedly so. I have tried to make haste slowly and to err, if at all, upon the side of safety and conservatism.

Case 1. Eula Y., age 17. Slender, blond. Scrofulous from infancy: had phlyctenules, abscess, caries of bone, etc. Had vision of 20/40 with + 4 c. axis 90° . Had intermittent otorrhœa since infancy, discharge smelling like decayed fish, for which tellurium seemed beneficial for a time, but which would recur with every attack of nasal catarrh and continue for several weeks.

Sept. 20, 1910, I gave her an x-ray flash treatment, 300 flashes, one flash per second, for the amblyopia. Her ear was discharging at the time, but I did nothing to try to stop it. For two days following the raying the otorrhœa was much increased in quantity, then quickly ceased, so that at the second raying, Sept. 27th, there was no discharge, much to the surprise of the patient and her friends. Following the second raying the otorrhœa was again in evidence for a day or two, then quickly ceased. A third raying was given Oct. 6th and a fourth Oct. 20th without a reappearance of the otorrhœa and without benefit to the amblyopia. Since the second raying six months ago, though

she has had repeated attacks of nasal catarrh, there has been no recurrence of the otorrhœa.

Case 2. Florence F., age 10. Examined for glasses Oct. 25, 1909. With + 1.25 s. V. = 20/40 o. u. under cycloplegia. Wore her glasses until Oct. 2, 1910, when a second test showed V. = 20/40 with correction as above. Gave her an x-ray flash treatment Oct. 2; a second Oct. 15th and a third Oct. 24th, 1910. Did not see her again until March 13, 1911, when vision was found to be 20/20 each eye, with correction of + 1.75 s. without cycloplegia.

Case 3. Mrs. S. M. S. This case I reported last year as a case of senile cataract with right vision of 4/200 and left of 1/200 increased to 7/200 and 5/200 respectively, and reads J. 11, R. and J. 12, L. The improvement has remained and she now does most kinds of housework, and is much pleased with her vision.

Case 4. Mrs. A. S., age 35. Lenticular cataract L. V. = 14/200, Jan. 28, 1911. Feb. 22, 1911, having had three x-ray flash treatments, V. = 20/100. Further treatments failed to increase the vision, which gradually failed to the condition when first examined. Opacity of lens slightly increased.

Case 5. Miss L. O., age 21. Goitre, small, soft, all three lobes enlarged. Had used iodine externally and Gunther's goitre powder internally without apparent effect. From April 9th to June 15, 1910, had eleven x-ray flash treatments, with reduction of neck measure $1\frac{1}{2}$ inches and complete cessation of all troublesome symptoms. No recurrence to date.

Case 6. Mrs. A. W., age 22. Consulted me upon recommendation of Case 5 for a small, soft goitre, with rapid pulse and much sensitiveness of neck to touch. From June 4 to Aug. 2, 1910, had 4 x-ray flash treatments, with complete relief of symptoms.

Case 7. Mrs. E. D. B., age 45. Has had enlarged lymphatic glands of neck for more than 20 years. Usually kept under control by close attention to general health, outdoor exercise and negative galvanism. In the autumn of 1909 the usual remedies did not control the swelling. The whole left side of neck badly swollen, one gland under angle of jaw as large as a bantam's egg; some tenderness and aching. Under the x-ray flashes alone prompt improvement was observed. Weekly sittings were had during the winter, with uninterrupted gain, despite the fact that cold weather formerly aggravated. A satisfactory result was obtained, the glands being reduced to a less size than for many

years, with no signs of a recurrence during the winter of 1910 and '11.

Case 8. J. V. De L., age 55. For lack of better diagnosis, I called it detached retina. The typical ophthalmoscopic signs were not undeniably present in aggravated form. The vision was purely central, saving a small patch in the lower field of the perimeter. There was a total lack of extrabulbar symptoms. No pain or other signs of inflammation. Simply tubular vision, rather sudden in its onset; not more than a week since patient noticed a narrowing of the visual field until he consulted me. Was given interrupted x-ray treatments, and nux for a few general symptoms, and allowed to continue his work as a merchant. Had three treatments first week, two the second and after that one per week. The field gradually extended until after treatments lasting from Jan. 9, 1911, to March 30, 1911; the field is now nearly normal except small patches here and there, noticeably in the upper quadrant of the field, which latter is still improving at this time—April 19, 1911.

Case 9. The writer, as an adjunct to an attack of grip, sustained an acute sinusitis which, despite the usual remedies, became chronic. While experimenting to find if the Roentgen flash would prevent further loss of precious hair from my already sparsely covered scalp, I rapidly and unexpectedly recovered from my sinusitis. As nearly as I could discern, practically all the sinuses were affected, with the possible exception of the sphenoid. This occurred in February, 1911. Since then I have used the ray in a few stubborn cases of sinusitis, in conjunction with the other measures used, but while the outcome was satisfactory I cannot tell how much, if any, of the result to attribute to the ray, as I had not the courage to rely upon it alone.

Case 10. F. R. W., salesman, age 45. Without pain, during an attack of nasal catarrh, developed an otorrhœa of a very offensive herring-brine odor: discharge profuse, watery, through a small perforation in the right drum head. No history of a prior attack, nor of signs of a previous perforation, nor of previous deafness. Ear inflated readily. He received tellurium internally. Dried the meatus externus frequently with cotton and gave weekly treatments of the X-ray flash. The amount and offensiveness of the discharge were perceptibly lessened after the second treatment, and both have gradually diminished. Is still under treatment. I do not know whether the ray should have any credit for the improvement in this case. The middle ear was and is closed to any local measures, even cleansing,

except by the air-bath. Whether nature unaided would have accomplished the same results I shall never know.

Case 11. B. Z., age 12. Exophthalmic goitre, not far advanced, yet with the general and local symptoms sufficient to thoroughly alarm her family. The whole ensemble was greatly benefited by x-ray flash treatments, the goitre being reduced to nearly normal size.

In some of my goitre cases Gunther's tablets were used; in others, the ray alone. I could see no difference in the progress between those who used the tablets and those who did not.

While I do not profess to have established the efficacy of the x-ray flash as a means for combatting disease, nor to have discovered its exact place in our armamentarium, I am glad to add my little to this symposium, hopeful that soon we may among us discover its field of usefulness as a therapeutic agent, and thus be able to cure some conditions more certainly and quickly than without it.

A FINAL WORD IN REGARD TO THE ROENTGEN RAY FLASH TREATMENT.

E. H. LINNELL, M. D.,

Norwich, Conn.

I HAVE now been using the flashes nearly three years; time enough, it would seem, to form an intelligent and unprejudiced opinion of their merits.

My results certainly warrant a continuance of their use and a confidence that they afford a very valuable method of treatment in suitable cases. The results however depend largely upon the technique employed and the experience and judgment of the operator. This probably explains the varying results reported by others.

I feel as though an apology was due to this society for again taking its valuable time with a discussion of this subject, but perhaps I may be pardoned because of its importance and because of the increasing interest that is manifested in regard to it. I hope we may at this time learn the experience of others along this line, that we may have a full discussion from different points of view and arrive at more definite knowledge of when and how to use the rays.

It is not my object to relate in detail at this time cases of eye affections successfully treated. I have done that sufficiently in previous papers and perhaps I could not add, except in numbers, to the value of the clinical evidence already presented.

I want to review briefly some of my former statements in the light of further experience, to reply to some adverse criticisms that were made one year ago in Chicago when I was not present, and especially to dwell upon the general constitutional effects, as evidenced by changes in the pulse rate, alterations of the temperature and of the blood pressure. Incidentally I shall refer to its effects in ear diseases and in some constitutional conditions. I shall aim to present only facts gained from experience and not theoretical deductions.

For general influence my technique differs from that for local influence, and I ask your careful attention to this point as being of prime importance if one is to achieve the best results. In the former I place

the tube at least three feet away, either focussed over the chest or elevated above the patient's head and directed downward. In this way the divergent rays reach a larger surface. I use a longer flash and give five hundred at one treatment. I also use a stronger primary amperage, and protect the eyes with lead glass spectacles covered with lead foil. I have noticed much less constitutional influence when aiming at local effect with a shorter flash at 12 in., and a smaller number of flashes. I think probably this difference in technique explains the failure of Drs. Wells and Loring to obtain more marked and lasting influence on blood pressure as reported one year ago.

I stated in my first paper, two years ago, that the rays lower arterial tension. I would qualify this statement by saying they lower arterial tension when too high and raise it when too low; in other words, they exert a regulating influence. In the former case there is often an initial increase to be followed by a permanent lowering of tension. The same may be said of the pulse rate, which is lowered when unnaturally high and increased in frequency when too low. This is not the invariable result, but the usual one.

The most marked influence in reducing arterial tension is, of course, in cases of hypertonicity of the arteries without marked atheroma. It is of considerable service in cases of incipient arteriosclerosis and cerebral congestion threatening apoplexy.

In some cases of lowered vitality, as neurasthenia, it raises the temperature when below normal. I have not observed any increase when the temperature was normal or above. My conclusions on these points are based upon approximately one hundred observations of the blood pressure, and a somewhat smaller number in respect to the pulse rate and the temperature. This is not enough to be conclusive, but enough to be suggestive and to encourage further experimentation along this line.

Dr. Dieffenbach very kindly wrote a discussion of my original paper in which he said he had become convinced of the utility of the flashes "where marked hyperæmia, stimulation and regeneration of tissue is striven for," and that "we have in the use of x-ray flashes one of the most efficient methods of inducing both local and general hyperæmia in the domain of medicine." He wrote recently that further experience confirmed the truth of these statements. If this is true, it will not be difficult to understand their beneficial results in both local and general diseases. The regenerative action of the intermittent rays is

explained by an active hyperæmia without stasis, in contrast to the passive hyperæmia going on to degenerative changes in all tissues, eventuating in atrophy and destruction of tissue, as produced by the continuous rays. It is most important to recognize fully this dual action of the rays, depending upon their method of administration and their dosage, which is analagous to the familiar dual action of drugs and other forms of energy, and which seems to be in harmony with our homœopathic law. Again let me emphasize the desirability of a modification of technique according as we desire to obtain purely local or constitutional results from the employment of the intermittent rays, or a combination of the two.

Dr. Cook, the originator of the treatment, reports success in such serious organic affections as leukæmia, pernicious anæmia and deep-seated cancer. As I said at the beginning of this paper, I am not going to report individual cases of eye diseases successfully treated. That would only be a repetition of former reports and would perhaps be no more convincing. Rather, I want to report a series of observations on the blood pressure, pulse rate and temperature. The blood pressure varies in different individuals according to age and general conditions. It is increased from 5 to 10 mm. after meals, and also is influenced slightly by exercise and by nervous excitement. The chief pathological conditions which produce an increase of blood pressure are arteriosclerosis and interstitial nephritis.

The following table based upon 1,000 examinations by Dr. H. P. Woley, of Chicago, and published in the HOMŒOPATHIC EYE, EAR AND THROAT JOURNAL for November, 1910, is the best statement of normal blood pressure which I have seen and will bear repetition. In females the pressure is, as a rule, about 8 mm. lower than in males.

"From 15-30 years of age, average	122	(144-103)
" 30-40 " " " "	127	(143-107)
" 50-60 " " " "	132	(149-115)
" 55-65 " " " "	138	(153-120)

With pulse under 65 average blood pressure in all cases was 123; with pulse over 85, it was 130 mm. "He adds (a surprise to me) that he found" over twice as many healthy individuals with pulse over 85 as under 65."

My method of estimating the blood pressure was by the use of a Riva Rocci sphygmomanometer with a band 4 inches in diameter placed above the elbow and over the sleeve. The systolic pressure only was recorded.

Case 1. Mrs. H. was a neurasthenic individual, low spirited, with a tendency to sluggish action of the liver and flatulent indigestion. Heart and kidneys were normal, save an accented second sound. B. p. at first was 240 mm. and after treatment 200. I am not sure, however, that the first reading was entirely accurate. Subsequent readings were as follows, before and after treatment: 185 & 170, 175 & 190, 165 & 175, 155 & 145, 200 & 190, 155 & 175, 162 & 155, 170 & 142, 155 & 145, 160 & 160, 135 & 145, 145 & 135, 125 & 135, 150 & 150, 140 & 155, 140 & 140, 135 & 140, 130 & 125, 150 & 135, 120 & 120.

Thus in twenty treatments it was reduced from 200 and upwards to 120. Since then it has remained about 140, sometimes a little higher and sometimes a little lower, but maintaining a general average not far from normal at her age, which is between 50 and 60. It is noticeable that the immediate effect was as often an increase as a decrease of pressure, but the general tendency was downward and only once did it approximate the high degree which she had at the commencement of treatment. During the treatment she took various homœopathic remedies, as indicated.

Case 2 was a man about 60 years old who had, 18 months previous to consulting me, two attacks of cerebral hæmorrhage with hemiplegia from which he had not entirely recovered. He also had a paresis of the throat muscles and an enlarged prostate. In eleven treatments his pressure was reduced from 190 mm. to 130 and his general health was very much improved. In three instances only there was in his case a slight initial rise in the blood pressure. During the treatment he took conium 3x.

Case 3 illustrates the rise of blood pressure when below normal. The patient was a professional man suffering with neurasthenia, rheumatism and fatty degeneration of the heart. The record of twelve treatments is as follows: 100-105, 107-115, 107-120, 125-123, 108-108, 105-105, 105-112, 115-120, 110-110, 110-100, 112-125. Later treatments were followed either by no change or a temporary diminution of pressure.

I might quote other cases, but these are the most striking ones I have observed. My experience, while not extensive, seems to show an influence on the whole to increase the blood pressure when too low and to lower it when too high, or, in other words, to exert a regulating influence tending toward the establishment of a normal standard and accompanied with a general increase of well being.

The same regulating influence was noticed on the pulse, retarding a too rapid pulse and accelerating a slow pulse, a variation of six or eight pulsations per minute being not uncommon.

I have made comparatively few observations on the temperature (about 50). These were all cases where the temperature was sub-normal, and with very few exceptions the thermometer showed an immediate rise of from $1/5$ - $1/2$ degree and sometimes a whole degree.

These observations are not offered as conclusive but only as suggestive. If further experience shall confirm my deductions, they will afford valuable evidence of the power of the intermittent rays to stimulate the vital functions, to bring about radical changes in circulation and metabolism, and thus to profoundly influence morbid conditions, both local and general.

I will mention one case in point, that of a young lady about 30 years old. About ten years previously she had a severe attack of pelvic peritonitis, and ever since menstruation had been very scanty and irregular, being absent frequently for months at a time. Her general health was excellent and my diagnosis was deficient nervous and vascular supply owing to cicatricial thickening and pressure upon the ovaries. I gave her four or five flash treatments, focussing the tube over the hypogastrium, and for more than a year she has menstruated normally at intervals of four to six weeks. Perhaps this is only a coincidence, but inasmuch as she has not been as well in this respect for at least ten years in spite of various homœopathic prescriptions, it at least affords food for thought.

I found the treatment helpful in some cases of neurasthenia also.

My experience with the treatment in ear cases has been quite limited, but it seems worthy of trial in cases of tinnitus, in old proliferative catarrhal cases and in cases of nervous deafness.

After writing this paper, it occurred to me that it was perhaps hardly appropriate for presentation to a society of specialists. I offer it, however, as in a sense supplementary to my previous papers. I have endeavored to elucidate the *modus operandi* of the flashes and to set forth a scientific basis for the confidence I have in their efficacy.

45 Broadway.

DISCUSSION.

F. R. COOK: I regret that it is impossible to be present on this interesting occasion to hear in person the experience of others who have employed the intermittent method of x-ray delivery and especially with

reference to pathological ocular conditions. Dr. Linnell has kindly submitted a copy of his paper for my personal criticism; I must confess that I can find but one objectionable feature and that is the phrase "A final word" in the subject of his otherwise able paper.

It is a truism, no doubt, to say that all progress has taken place *pari passu* with the discovery of some new phase of the transformation of energy or a wider comprehension of the laws of action of types of force already known. Radiant energy, as evidenced in the Roentgen rays, radium and, according to some recent investigations, in the living cells, is the new world force which must command the whole attention of men who are especially fit, for the sake of scientific progress and the advancement of mankind. We must certainly expect greater things of a force, when we reflect that notwithstanding its brief career it has already upset many of our preconceived notions of the nature of both animate and inanimate nature, and leads us to believe that although it may not be the actual living force it certainly comes nearer to that force than any other manifestation heretofore known. We are led to believe therefore that what has already been accomplished in a therapeutic way is of minor importance as compared to the wide field of investigation which has opened for the study of the *modus operandi* of the vital force in both degenerative and regenerative cellular metamorphism.

Roentgen ray energy is now accepted as a cure for superficial, and a potent inhibitory agent in deeply seated, cancer. It is now apparent however that our technique in the treatment of malignant disease is grossly imperfect, that we failed to discriminate between the local and general actions, that in our blind enthusiasm, by over local and imperfect general treatment, we actually produced the degenerative cellular changes which activate malignant growths, or in a word simply added fuel to the flames. We have every reason therefore to feel sanguine of victory. Very recent experimentation makes this victory seem more imminent. It is indisputable that x-rays under certain conditions produce cancer.

The study of the degenerative cellular changes induced by this agent has already given us some important data with reference to etiology and there still remains a boundless field for further research work in this direction.

The Cohnheim theory appears to be completely routed and the parasitic hypothesis to be making a weak defense. At the present, observations appear to point in an absolutely different direction and readily explain why so much work, although thorough, has met with scant results and at the same time, as every true hypothesis does, includes and affords a proper place for every positive feature of cancer research work up to the present day.

At the present stage of the evolution of the x-ray hypothesis it seems possible to make the following inferences:

First: That cancer is manifestly a constitutional disorder.

Second: That the growth or local manifestation is merely an end result and elucidates the futility of most cancer research work.

Third: That the primary growth results from a continuous bombardment of cells undergoing a degenerative process, and that to seek for this bombarding force it would appear wisest to scrutinize at first the one which we know must be on the field of action, viz., vital energy.

This hypothesis not only accepts the conclusion of Virchow, the father of modern pathology, who summed up his life's work on this problem by saying that cancer in some way is associated with local irritation but accepts it with limitations, regarding it as an important local, not the chief etiological, factor and elucidates the futility of pathological and the urgency of biological or physcobiological methods in the solution of this vital problem.

A number of investigators working independently of the x-ray hypothesis are looking to biological chemistry, expecting chemical findings to furnish the material for the completion of this work. Biological chemistry must play its role and will probably conclude the next stage of progress, but is it not apparent that, just as resting upon a pathological basis, we will still be dealing with end results and that we must go further to deal with that unknown vital force which must be responsible for chemical products as well as pathological changes?

This is one example of what radiant energy teaches as well as what it does, but there are many others.

This is preëminently an age of specialism. Much has been made of the influence of anatomical grouping of cells upon the general organism, of the laws of compensation, of local sympathetic cellular relations, but we are just beginning to appreciate the relation which general metabolism or the general vital status bears to local degenerations, to catch a glimpse of the great laws of general intercellular reciprocity and the survival of the fittest in the evolution of cellular life, as well as in the evolution of species.

Advance along these lines lies in the direction of preventive medicine which we all must concede to be the final goal of our profession.

In connection with the eye the most important lesson that the x-ray teaches is that greater therapeutic efficiency must be obtained, chiefly along the lines of general metabolism.

Actinotherapeutic observations compel us to believe that back of all progressive degenerative conditions of the eye are changes in metabolism which have heretofore escaped recognition. This is particularly so inasmuch as changes in general metabolism have invariably accompanied the retardation or arrest of local degenerative processes.

The relation of the pulse rate to the systolic blood pressure affords an important clue. In some instances the former, in others the latter, will undergo the more radical alteration.

It would seem possible to divide cases of perverted metabolism into two general classes, viz., hypermetabolism and submetabolism; in either case we may have a low or high blood pressure. The rise of blood

pressure is undoubtedly compensatory and is an effort on the part of the organism to overcome some inherent resistance. A gradual fall of pressure with an immediate, however slight, improvement in the local signs points to a favorable outcome. A sudden and marked fall in pressure with no local response presents the most unfavorable outlook. It would appear in some, possibly in all, cases before an equilibrium is reached that a stage of compensatory reaction must first ensue. In some instances however the period of reaction is not distinct, but is marked by intermissions, corresponding to x-ray exposures. As regards low pressure cases, although the final action of successful exposures is to raise the pressure this does not always come about directly; the immediate effect may be a transitory rise followed quickly by a sudden fall below the original pressure, with subsequently a gradual rise above the original pressure, and this cycle may be repeated time and time again with minor variations during the course of treatment.

A blood pressure although much below the normal may still be too high for an economic circulation. Therefore a temporary fall in such cases accompanied by a retardation of the pulse rate must result in an improvement in general metabolism. Further consideration of this important aspect of the subject, modifications of technique, etc., must be postponed for the present.

In conclusion we might say that with the improvement of technique, a proper selection of cases, the adoption of the x-ray method in earlier stages of local degenerative conditions, the employment of all other means at our command that tend to equalize the circulation and to promote general metabolism, much better results will be obtained.

C. GURNEE FELLOWS: I am not over-enthusiastic in the use of the x-ray, nor am I pessimistic. I have seen blood pressure reduced repeatedly, and I believe definite eye results following it. Of course we cannot always take a patient's feeling as to whether he is better or worse, as a criterion, but I have had a few patients who not only were afraid of the treatment but refused to take it; notably one of glaucoma a year ago, with one eye already hopelessly lost and the other one fast going. He took several treatments, refused more, and continued to go blind under somebody's else care. Recently a case of probable glaucoma thought he was so much worse after two or three treatments that he refused further flashes. I cannot feel that the x-ray has caused damage in either of these or similar cases, but I certainly am careful in using it and hesitate at times to do so.

I have seen no results in atrophy, and have been disappointed in incipient cataract, but my banner case of disseminate choroiditis retains good vision for two years following the treatment.

I have experimented in chronic suppuration of the middle ear with negative results in some cases, but two remarkably successful cases have appeared, both of them of long standing and both of them followed by total cessation of the discharge after a few treatments.

As to my technique, I have given it to Dr. Schenck and will only say

that I am using fewer flashes as a rule, and with longer intervals, on the theory of diluting the dose and giving a minimum amount of current.

G. A. SHEPARD: I have not used an x-ray outfit myself but I have had several patients treated with the flash; I have seen no changes sufficiently marked to inspire me with great confidence in the benefits to be derived from it. After two weeks' treatment in one case I found some swelling of the lens but could see no change in haziness.

A. G. WARNER: I would like to ask whether in cataract cases treated by the flashes which have not been arrested by them but have gone on to maturity, has there been any other noticeable changes, softening, clearing up or changes of any sort that could be attributed to the treatment?

H. D. SCHENCK: In the treatment of patients with these flashes I have noticed that there was a temporary lowering of blood pressure; the reduction would be about 10 millimeters—if it was 160 on starting it would go down to 150—but it would be up again at the next treatment. Some cases I treated for six months, but I saw none in which the flashes had as much effect upon the blood pressure as had diet and habits.

DAVID W. WELLS: In those cases that Dr. Linnell has brought to our attention, at the same time that the x-ray flashes were used he was giving other remedies; yesterday Dr. Copeland reported a case of high blood pressure which was reduced to normal by the action of an indicated remedy; the point is that in order to determine the efficacy and therapeutic value of any agent it should be used alone and not interfered with by adjuvants used at the same time. Dr. Linnell has said that the failures of others might be due to failure to select proper cases; now I wish that he would tell us what kind of cases are proper cases. I would like to know how to distinguish cases to which this treatment is applicable from others. Also I would like to know whether in cataract cases that have been improved according to the patient there has also been visible objective improvement in its appearance.

Last year I reported some cases in which there was slight improvement in vision but I was not able to see any improvement in the appearance of the opacity; the improvement was not great. It would be helpful if we knew the number of cases treated, the number of failures and the number of successes; no other means should have been used at the same time. In no other way can we determine the therapeutic value of this agent.

In the doctor's paper last year he said "of course I have had failures" but he did not give us the percentage of failures. I am anxious to learn the exact value of this agent. I would take it up again if I were convinced of its value. Several cases were reported by me last year in which the method used was flashes over the chest as suggested by Dr. Cook. Yesterday Dr. Laidlaw told us that cases of high blood

pressure if caused by nephritis or arterial sclerosis were not permanently benefited as a rule; I do not know whether he qualified that or not. In a previous communication by Dr. Bissell, he said that little could be expected from it in cases of arterial sclerosis.

DR. BROOKS: After my accidental discovery of the effect of the x-ray flashes in otitis media suppurativa I tried it in some other cases and I do not remember any of them in which I failed to give relief. I did not have very many cases but I recall two or three in which the relief was immediate and complete. Some never came back to finish the treatments; whether they were cured or whether they went to somebody else I have no means of knowing—I have not heard of them since. One thing that has not been mentioned to-night is that the treatment requires a high, hard tube. A soft tube is worthless for this purpose. I began this work with an apparatus and tube belonging to another doctor; his was a low tube and I had some successes but more failures. Since I have been using my own high tube my results have been better. I have not operated upon any of the cataracts that I have treated with the x-rays and I cannot speak of the effect upon maturing them. I have been using the treatment for two years. As to why or how vision is improved without any visible improvement in the appearance of the opacity I cannot say, but can only guess that it may be due to an increase in the perceptive power in the retina. On the whole I am much pleased with the results of this method of treatment. If it never did another thing for me more than it has done, I have made enough people happier and taken in enough money to pay for the time and apparatus, so that I would feel that there had been a positive gain from its use.

DR. SCHENCK: The x-ray has proven valuable in a case of retinitis pigmentosa where the field was contracted down to a small one; the contracted vision is somewhere about 6/60. Under x-ray flashes the vision has improved a little each month, now he can read one or two letters of the 6/21 line. Many of his friends have noticed that he does not run into things as much as formerly. He himself mentioned that in going to the opera and sitting in the same seat as formerly he was able to distinguish objects on the stage that he was not able to see before. I have been unable to demonstrate any objective improvement but it does seem that he sees better than before. I have made careful diagrams of all the cases that I have treated so that I would be able to recognize the slightest improvement; there has been none.

DR. LINNELL: I have changed my apparatus since my first report; now I use a mechanical interrupter and a 12-inch coil. I use a hard, high tube—the harder and higher it is, the better. For local effect I place the tube 12 inches from the eye, no nearer. I seldom use more than 50 interruptions and often only 35 flashes in a minute; the flashes are 1/10 of a second in duration. Formerly I used very rapid interruptions, 250 a minute, but not now. Primary amperage of five. I have not had any cases of cataract that came to maturity and required

operation on which I have used the flashes previously. I have never noticed any ill effects that could be attributed to the x-ray. Dr. Wells has very properly said that other remedies should not be used if we desire to get the true value of any given remedial agent. In cases which I have reported where remedies were used they may have influenced the final result, but the immediate effect of the rays as shown by an improvement of vision could not be attributed to anything else. The selection of the proper cases depends upon experience; cases of cataract are seldom influenced unless they are in the very incipient stage—the x-ray has no beneficial action when the cataract is advanced. In one or two instances where the opacity was very slight I have cleared it up so that it was no longer visible. Much more frequently there is distinct improvement in vision without any perceptible change in the appearance of the opacity. I attribute this improvement to stimulation of the optic nerve. As to the proportion of cures and failures I cannot answer now. I know that I have had a larger proportion of failures recently than I did when I began the treatment. I cannot say whether this is because I have employed it in a larger number and variety of cases than at first or because I have selected them less carefully. It is true that at first I used the treatment in carefully selected cases only; now I use it in a much larger number of cases, more indiscriminately selected, and I do not get as large a proportion of successes.

THE LYMPHOID MASSES IN THE PHARYNX AS A SURVIVAL FACTOR IN THE EVOLUTION OF MAN.*

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A VERY cursory study of the literature is sufficient to convince one that he can find excellent authority for any conclusion he may reach regarding the lymphoid bodies comprising Waldeyer's ring. He may consider them as organs of protection, to be most carefully conserved, or he may look upon them as death traps especially designed by the devil for the purpose of shortening life. Physiologists and pathologists have been investigating these organs for more than a century and the combined results thus far have been to emphasize the obscurity which so thoroughly veils their functions. Much theorizing has been done, the same theory often leading different men to totally different conclusions.

Standing, as these bodies do, at the junction of the two passages through which everything must pass that makes for or against the human existence, they must of necessity play no small role for good or evil in our economy. Every particle of inspired air, heavily laden with either the bacteria ridden dust of our cities or the infectious germs which everywhere prevail, or both, and varying in its temperature through a range of perhaps seventy degrees, at certain seasons and in certain localities, is filtered through and over the bodies constituting this ring. We have here, then, either the battle ground where the disease producing elements fight for their own existence, in order to accomplish their destructive work later, or simply a radiating surface by which food and air, of a temperature foreign to the stomach and lungs, may be either cooled or warmed to a degree compatible with that of the body tissue.

With no idea of settling this question, or even contributing anything original as to the functions of adenoids and tonsils, I would like to offer a suggestion or two that have occurred to me in my work along this line which may possibly be followed further and lead to a more

*Written especially for this JOURNAL.

conservative method of dealing with these masses, and even leaving some of them entirely alone.

The more I study this subject the more I am convinced that investigations hitherto seem to have been limited mostly to abnormal growths, even to those distinctly pathological. To this, to me, one-sided method I believe we owe many of the conflicting opinions which confront us at every turn, and of course the haziness which surrounds the whole subject. When we consider that these lymphoid masses when conspicuous enough to attract our attention are practically the property of the white race, and mostly of that portion of it which has attempted to acclimate itself in regions where the low temperature obtaining in the winter militates against existence at present, it is time for us to view the matter from a biological standpoint, if we would get a true perspective of our picture.

The first principle we learn in biology is the all powerful influence of environment on living matter. Environment produces what is known as variation from a preceding type and we soon discover that many things which a physiologist would term pathological, to a geologist are not so at all, but are variations—are adaptive changes necessary to the survival of the individual in a new environment. Among the extraneous influences which bring about these variations we perceive that none is more efficient than temperature, including in that term persistent fluctuations. Primitive man lived in a tropical climate, not by any means our present tropics, but somewhere in climatic conditions which are to-day probably duplicated there. There was no marked variation in the temperature, it was mild and equable throughout his year. But with that touch of nature which makes us all kin, he was not content to remain in his native habitat; he lusted for the unknown, for those parts of his world which nature forbade him to possess. When he invaded this hostile atmosphere in defiance of her laws he subjected himself at once to the influences of temperature, a new temperature and a fluctuating one and nature immediately set about adapting him so far as possible to the conditions in which he insisted upon living. Owing to the obstacles placed in her way by man himself, her success has been at best not very brilliant and the process of adjustment has been long drawn out. The so-called refrigeration diseases are the result, not of nature's work, but of man's interference and obstinacy. One of the chief hindrances we offer her is our super-heated living rooms. Ever since man left his native clime he has bent

his energies toward creating, as nearly as possible, an artificially heated atmosphere, imitating that of the tropics. His ancestors depended on the heat from the sun and all the old civilizations—Egyptian, Indian, Greek, and Roman—found this sufficient for their needs. The more northern peoples, those in Central Europe, developed the science and art of artificial heat still further by the comparatively recent invention of the chimney. But it remained for the 19th century to devise the most effective means of thwarting nature in her efforts by inventing iron stoves, encasing them and placing them beneath the house to distribute a burnt, lifeless, superheated air in the living rooms above, thereby producing a temperature of perhaps eighty degrees on the inside of the front door, while that outside might be seventy or eighty degrees lower. Thus a sudden and marked variation was achieved to which man subjected himself. Where would this change make itself felt in the human economy?

Although man covers practically the rest of his body with materials taken by force from other animals weaker than himself, he has never yet devised a covering for his throat and this has to stand the brunt of the attack. The primitive throat was never designed to raise the temperature of inspired air or ingested food through any such range as this, nor was primitive man—born and fitted for an equable climate—endowed to withstand such an onslaught of powerful frequently repeated influence.

In winter we live in ovens and in summer we gulp down ice water and ice cream. We seem to exercise all our ingenuity in devising ways to thwart nature, to live in a world of extremes, continually rushing from one to its opposite. And it is only in such conditions and among such conveniences of civilized life that the refrigeration diseases are generally found. They are practically unknown among peoples who do not achieve these artificial conditions in their environment. In a personal letter from Dr. J. W. Goodsell, of the last Peary expedition, he writes me that so long as his men were out in the field in extreme temperatures of 60° below 0, even though occasionally ducked in the icy waters of the Arctic seas, they knew no troubles of the respiratory tract; neither do the denizens of that region. But when hived up in the close, artificial warmth of the ship they were not free from colds, and when they returned to home latitudes, catarrh and colds were well-nigh universal with them. He imputes these changes to bacteria which infested the ship but it seems to me, at this distance, that while those

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were not without influence they were not the sole and only cause, for he speaks of the Esquimaux "living in filth always" and therefore in a germ-laden atmosphere. But they seem to be immune to catarrhal conditions; colds are unknown amongst them. However, they live in what would probably seem to us to be a cold-storage plant, so far as indoor temperature goes, hence they are not subject to such wide variations of temperature as their brethren who have all the comforts (?) of civilization to endure and who continually pay the penalty therefor. For civilized man persists in living in extreme climates alternately and repeatedly within twenty-four hours. Against such a problem of adaptation nature struggles almost in vain. And may it not be this sudden and oft-repeated variation, together with nature's efforts to cope therewith, that is responsible for most if not all of our nasal and pharyngeal catarrhs and indirectly of other respiratory affections?

The only way in which an inspired breath can be raised from a temperature of 10 degrees to one of 80°, perhaps, is by increasing the radiating surface over which it must pass before it reaches the larynx. And this is what nature seems to me to be trying to do and, thanks to man's interference by means of all the comforts of home, not always with success. Everybody knows the function of the turbinated bodies in the nose. That has been established without question for a century or more. They are varied to suit conditions, and when we discover such a variation we call it hypertrophy, chronic rhinitis, etc. When owing to ill judged surroundings the process goes beyond the point of comfort, the nares become occluded and much inspiration goes on through the mouth. Then the pharyngeal tissues take up the work of increasing the radiating surface, and we have as a result a lot of hypertrophied tissue in the shape of tonsils and adenoids. This enlargement can go on and under certain conditions does go on until it produces a mechanical obstruction. Also, exposed to abrasions of its epithelial covering and closure of its crypts, a tonsil of this kind may easily become an important source of infection, either through its denuded surface or through altered conditions in the protecting lining of its crypts. Thus while there may be, in a normal tonsil, originally an exclusively protective and temperature modifying function, through the exuberance of this hypertrophy a distinctly different process may be engendered and the tonsil become a dangerous source of infection. It is the sudden and wide variation in temperature to which these

lymphoid bodies are exposed in northern homes that encourages this exuberance, and it is worth noting that the greatest hypertrophies often are found in the throats of the more robust individuals.

Some persons are comparatively free from catarrhal affections, they seem to live and flourish in any climate: this means that their ancestry has fought out the conflict of adaptation to foreign climatic environment and the present generation survives as one fitted to do so. The lymphoid bodies of their ancestors constituted the battle ground on which the conflict was waged. These bodies were probably not removed on sight, for which the descendants may be thankful. Per contra, he who is affected with tubercle or other disease of the respiratory organs represents a class who are or have been unequal to the struggle and are being weeded out. It by no means follows that all the descendants of those who are surviving, free from catarrhal or pneumonic diseases, will be free from these troublesome conditions. Besides, occasional reversion to type there will be the personal equation to be reckoned with, which may enter the case in such a way as apparently to refute all principles carefully laid down. But other things being equal (which perhaps may be an unwarranted assumption), this last class will be free from all the refrigeration diseases and in future, more distant ages will be subject only to the zymoses and other similar infections.

We talk glibly about dyscrasies, diatheses, etc., not realizing perhaps that the conditions so described are but transitional states in the evolutionary programme of nature's endless task of adaptation to environment, and that when her work is done, if ever, such terms will have no interest except as ancient history.

Where does this great work of adaptation center? Obviously, in the nasopharynx and upon the lymphoid tissues found therein. The greatest activity along this line occurs in the years of childhood when the *viae naturales* are narrow and less fitted for combat with the hostile conditions in which they find themselves; in later years the passages are larger, but even so they are often unable to accomplish their task. These cases are not so far advanced in adaptation—so-called weak throats. "catarrhal tendency," etc.: they should return to their ancestral climate of past ages if they would live out their three-score years and ten.

One might go on indefinitely and discuss the methods by which man

endeavors to adapt himself to his environment and the curious effects which follow, but this is no place for such a digression.

From a practical point of view, what conclusions can we draw from these somewhat vague suggestions as to the *raison d'être* of these lymphoid growths? To my mind it would seem that any growth is evidently a source of trouble to the patient, either as a germ center of infection or as an obstruction to respiration, should be removed regardless of its size. Oftentimes it is the small inconspicuous masses which are the greatest offenders—a small adenoid, in Rosenmüller's fossa, will do more damage to the ear than a much larger one situated behind the septum in the median line. In all cases I believe we should be conservative in dealing with adenoids and tonsils found in children under the age of six. They are needed up to that time, and should be let alone, except for cogent reasons for removal. I have never seen a case which admittedly suffered because of the operation, but that is because perhaps we are not prone to trace an obscure connection between an operative procedure of our own and a possible though remote sequela. I believe the tendency today is toward a middle course, as regards removal of apparently pathological lymphoid masses. A large tonsil is not always a mischievous one. If remote lesions can be traced indubitably to a tonsillar condition of course the offending tonsil should come out. Otherwise let it remain and do the adaptive and protective work for which nature designed it; its removal will certainly retard that work and while the results for evil may not be seen in the present generation, may they not become evident in succeeding ones?

We are still very much in the dark regarding the functions of the lymphoid tissue in the throat, but I believe we are looking toward the light, and that the path to perfect day lies through the domain of biology.

409 Arnstein Building.

SOCIETIES.

AMERICAN HOMOEOPATHIC OPHTHALMOLOGICAL, OTOLOGICAL AND
LARYNGOLOGICAL SOCIETY, NARRAGANSETT PIER, 1911.

DISCUSSION of Dr. R. F. Lloyd's paper, "Cerebral Lesions," on pages 245-248, our July issue:

JOHN E. WILSON: Dr. Lloyd brings up a question which frequently arises among neurologists. Thrombosis argues one of three conditions: some change in the lining membrane of an artery, some change in the constituents of the blood or some change in the blood pressure. If you think that out, you will find that thrombosis is a disease or accident of the aged after exertion and of the infant after exhausting illness. Here in both conditions you have a change in the blood stream and owing to changes of age or of exhausting illness you have changes in the endothelium. The stream of blood in both is weak and the pressure low. Hæmorrhage, on the other hand, we recognize as having a basis in some change in the artery which makes it less able to resist pressure or in an abnormally high blood pressure or both. There may be calcareous degeneration of the arterial walls that make them more rigid, less elastic than they should be and therefore less capable of withstanding the high blood pressure which may be present. Now the patient in Case 1 did not fulfill the conditions for thrombosis, yet we call it thrombosis. Pathologists have pointed out that a man may have hæmorrhage in the internal capsule but there was no reason why he should have it there for he has all over his brain conditions that are just as ready for the lesion as it is at the point where the hæmorrhage occurred. He has, as a preliminary state, numerous aneurismal dilatations. It seems purely a matter of chance where it occurs as there are other places in his brain where the conditions are just as ready for it. That is a long preamble. I have had for quite a time a case which I have called thrombosis but which may in the end prove to be aneurismal dilatation producing the same symptoms as thrombosis. We know that we may have quite a few sets of symptoms that are apparently identical and find that they may be due to different lesions. The symptoms of this patient (Case 1) may be due to a lesion in the lenticular nucleus which is the great coördinating center for many functions.

DR. MACKENZIE: Is a hæmorrhage in the internal capsule due to the fact that the arterial sclerosis is more pronounced at that point than anywhere else? The pressure is everywhere the same.

DR. WILSON: I think that we do not know in just what way the

rupture takes place. The terminal arteries are no doubt subjected to severe pressure and give way to hydrostatic pressure. Almost any of the symptoms could take place from anything that obstructs the circulation in that part of the internal capsule or in the lenticular nucleus.

DR. LLOYD: A good many of these cases are found to be due to obliterating endarteritis.

DR. WILSON: Hence arises the peculiarity that thrombosis is an early morning disease.

G. W. MACKENZIE: This is a grand presentation of an important subject; I would like to ask the doctor one question: in the second case, there was hemianesthesia and hemianopsia and the lesion was located in the posterior leg of the internal capsule; in that case the patient had some optic atrophy. What was the cause of that atrophy?

DR. LLOYD: I think one might expect to find optic nerve atrophy in a lesion in that neighborhood when there was albuminuric retinitis in the eye.

AMERICAN INSTITUTE OF HOMŒOPATHY.

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ABSTRACTS.

An Inexpensive Pocket Transilluminator.—Holbrook Lowell, M. D., of Boston, has had made an exceedingly simple attachment for a pocket flash light. This particular flash light has a tungsten lamp of considerable power. Cap attachment is made of copper, or any other suitable material. The interior of the cone is silver plated and the whole exterior of the attachment is painted a dull black. The cone rises from the circumference of the lamp, being 21 mm. high, to the opening which is 5.5 mm. inside diameter. The slot at one end of the cap admits the switch button of the lamp, but by reversing the cap the button may be kept pressed down, thus closing the switch and giving a steady light. No magnifying glass, or glass rod is used, as the light and reflection from the silvered surface gives ample illumination. There is no heat present even after protracted use. The light projected is solid with no reflection of the luminous wires.—*Ophth. Rec.*

A Remarkable Case of Tuberculosis of the Eye With Postmortem Findings. A Contribution to Tuberculin Treatment.—M. Hayashi, Tokio (*Kl. Mon. f. Augenh.*, March, 1911). The pathology of the nodular growths of the iris resembling tuberculosis of the iris has not been clearly ascertained. The finding of the tubercle bacillus is rarely possible except by implantation of excised portions into the anterior chamber of rabbits.

This case occurred in a 42-year-old woman who had been under close observation for three years and finally died of croupous pneumonia.

The pathologic examination was made with great care and caused much surprise. Not only were no tubercle bacilli found, which in itself is not a rare thing, but the eye presented a typical picture of plastic iridocyclitis and showed nothing that could be traced to a tubercular process. The rest of the body showed no traces of a tubercular nature. The author for lack of any other explanation is of the belief that the process was a tubercular one in its early stages and especially in the stage of nodular formation. After the nodules were absorbed, it presented the picture of simple chronic inflammation.

The ocular condition began with a gradual deposit on Descemet's membrane with formation of vitreous opacities. The use of antisyphilitic remedies were without effect. Several minute nodes appeared on the pupillary border of the iris, suggesting the possibility of tuberculosis, though a careful examination of the patient by skilled internists proved negative. The tubercular view was further supported by the positive reaction from the use of tuberculin injections, and the disappearance of the nodules under its use. A number of relapses with formation of nodes left no doubt as to its tubercular nature.—*Abs. Ann. of Oph.*

BOOK REVIEWS.

A PRACTICAL HANDBOOK OF THE DISEASES OF THE EAR. By WILLIAM MILLIGAN, M. D., Aurist and Laryngologist to the Royal Infirmary, Manchester; Surgeon to the Manchester Ear Hospital, Lecturer on Diseases of the Ear at the Victoria University of Manchester, President Otological Section of the Royal Society of Medicine; and by WYATT WINGRAVE, M. D., Pathologist (lately Physician) to the Central Throat and Ear Hospital, London, and to the Polyclinic, London. 596 pages. 293 Illustrations. 6 Colored Plates. Cloth, \$5.00, *net*. MacMillan & Co., Ltd., St. Martin's St., London. 1911.

While this masterly work is modestly "for senior students and practitioners" it will be found well worth consultation by the exclusivists, surgeons and teachers. It is rich in bibliographic references; the illustrations, imprint and binding are good.

The aims of the authors are to apply pathology to accurate diagnosis and efficient treatment, and to emphasize the importance of coöperation between the practical surgeon and the clinical pathologist.

Facio-hypoglossal anastomosis for facial paralysis is clearly described by text and illustrations.

The author has had two cases of latent mastoiditis and thinks that such cases though rare "are more frequent than is usually supposed and may serve to explain the etiology of certain otherwise inexplicable intracranial or systemic infections."

Nineteen pages are devoted to cytological and bacteriological examination of discharges from the ear, covering blood counts.

Ocular signs of suppurative otitis media, according to Barr and Rowan, are "the frequent presence of optic neuritis or vascular changes in the fundus without obvious signs of any intracranial complication; they consider cases of purulent middle ear disease with normal fundus more amenable to treatment than if optic neuritis or vascular engorgement of the fundus were present. Such changes would afford an additional reason for early mastoid radical operation."

The spokeshave is still recommended for inferior turbinectomy, in the very practical chapter devoted to diseases of the nose, naso-pharynx and pharynx, but America is recognized by the phrase "or Ballenger's large swivel knife."

Our authors conservatively hold that no operative interference with postnasal adenoids is called for if their mass be small and the naso-pharynx roomy, respiration interfered with slightly if at all and no ear trouble is present. Avulsion with forceps "is now seldom employed" except in very young children "where it is difficult if not impossible" to use a curette efficiently.

The tonsils are lymphatic glands; the statement is made as a settled

fact. Finger enucleation has a recognized place in tonsillectomy; one of the authors has observed that the central or equatorial area of enucleated tonsils "is always closely connected with the constrictor muscle, so that many of its fibers are torn and remain attached to the tonsil."

There is an excellent discussion of the dry and moist treatment of the discharge in purulent otitis media—"boracic acid in watery or alcoholic solution is a mild and unirritating preparation, is, as a rule, well borne, but it has no antiseptic power." The reviewer is disappointed in that no mention is made of the lactic acid bacillus as curative in otorrhea.

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EDITORIAL.

A NEW DEPARTMENT—HOMŒOPATHIC MATERIA MEDICA AND
THERAPEUTICS.

WHY should a homœopathic practitioner send his patients to so-called homœopathic oculists, otologists, rhinologists and laryngologists instead of to specialists of the allopathic school who are unfamiliar with homœopathy?

Presumably because the former will give the iritis patient the benefit of bryonia, spigelia, mercury or what remedy is indicated in addition to mydriatics, hot or cold applications and such hygiene as experience dictates.

"A homœopathic physician is one who adds to his knowledge of medicine a special knowledge of homœopathic therapeutics and observes the law of similia. All that pertains to the great field of medical learning is his tradition, by inheritance, by right."

We homœopaths know the value of the indicated remedy in its appropriate place and also we know that success attends other ways of treating disease. Practically all the text-books and journals of the four head specialties are of no help in the homœopathic application of internal remedies to affections of the eye, ear, nose and throat; is it because of our reliance on them that so many of us specialists get along with the routine—or shall we say occasional—use of a few of the commoner homœopathic standbys?

This JOURNAL feels that its mission is to encourage homœopathic practice by these homœopathic specialists and it is gratifying to note the increasing number of papers of this character in its pages.

It is proposed, as an additional incentive and aid, to establish a department of Homœopathic Materia Medica and Therapeutics. Contributions are asked of symptoms that have satisfied the reporter of

their reliability or that have occurred as provings of drugs; mere notes, not formal or long papers for this department, please.

What are particularly valuable are clinical reports of verifications which leave no doubt in the mind of the reader as to the diagnosis and as to the attribution of the effect to the drug.

How many of us have stopped to realize how large an element in our prescribing is expectancy? The drug is expected to get to work where it is needed, and how often is it taken for granted that it will limit its work to what is asked of it? And this is not alone in local therapeutics.

Aside from syphilitic and rheumatic cases, are we not but too apt (unless reflexes obtrude) to consider only the eye, ear, nose or throat in selecting our treatment—except for what is frequently routine catharsis? Yet we do know that the constitutional condition of the patient is commonly a factor.

A FEW NOTES ON PSORINUM.

PHILIP RICE, M. D.,

San Francisco, Cal.

THIS remedy possesses undoubted value for the specialist in the homœopathic school; its power to touch the tap-root of very obstinate disease-producing forces makes it a remedy to be relied upon in his efforts to eradicate them.

However, before he can come to fully appreciate this fact and apply the remedy at all intelligently he must come to understand that very many of the conditions he is called upon to treat are something more than mere local conditions.

To illustrate this point more clearly I shall cite two cases that quite recently came under my care.

Some months ago a little boy four years of age was brought to me for an adenoid operation. He presented the typical adenoid features, but his general appearance was more striking than this. He was small for his years, but looked twice his age. He was thin everywhere except the abdomen; this was half again as large as normal. His skin was dry, brownish-yellow and dirty looking. The scalp was dry and scaly, and the hair also dry, lusterless and dead. He was sensitive, irritable and exceedingly finicky about everything. Appetite capricious, digestion poor and bowels irregular. The membranes and lymphoid tissue in the nose and throat were all thickened, which accounted for the mouth-breathing, but I could not make out that this was due to hyperplasia.

The general condition I was convinced required more attention than the local one, so recommended a few weeks' general medical treatment before operating. In my own mind I felt quite certain that an operation would never be needed, tho I kept this to myself.

Two powders of psorinum 200, to be taken one week apart, and placebo in plain tablets four times a day. At the end of a month the same remedy in the 1,000th potency, one powder, was given. Locally absolutely nothing was done. At the end of four months we had a clean, healthy looking boy. He has gained considerably in weight and strength; has a rational appetite, and almost normal digestion and

stool; has normal breathing, and in every way is quite a normal boy.

The second case is that of a lady, some thirty years of age, the wife of a prominent merchant. She came for treatment for "this nasty chronic catarrh." Local examination revealed the early stage of atrophic rhinitis, but the general appearance of the patient revealed the more important trouble, namely: the constitutional dyscrasia. Her general appearance was not unlike that of the little boy—sallow, unclean, unwholesome, poorly nourished. She too was nervous, irritable, finicky and I can imagine hard to get along with. She presented a typical psorinum image and that objectively, hence the remedy was prescribed. The 200th potency was first given, two powders dry on the tongue on two successive days, with a liberal supply of placebo for two weeks. Some weeks later a higher potency was given with more placebo. Locally nothing more was done than daily cleansing with normal saline solution. She was in due time cured on this much medicine of not only the "nasty chronic catarrh," but also of a number of other things of which she had told me nothing.

In both these cases I was led to the remedy, not by the local symptoms, but by the general appearance of the patient; and this has been so in the case of scores of others.

The local conditions we are so often asked to treat locally are in no sense local diseases. They are part and parcel of a constitutional derangement; were it not for the fact that the local manifestation is situated in so vital a part—the breathing apparatus—we would in all likelihood not be consulted, tho the patient be in just as urgent need of treatment. This then being true does it not seem reasonable and proper that they be treated as they require, namely, constitutionally?

As professing believers in the law of similars we are certainly expected to treat the affections of the eye, ear, nose and throat in a manner different from that of our old school colleagues; and when we do not, we show ourselves to be either ignorant of this law and its principles or else culpable.

The appearance of the psorinum patient is characteristic; in fact there is nothing more characteristic about him. The temperament most susceptible to its influence is the bilious-mental; using the word bilious here to denote the dark or brunette, and mental to signify the ascendancy of the brain and nervous system. This as a basic fact quite fully explains the reason of the sallow, dirty, unwholesome, nervous, irritable, morose, depressed and sensitive patient. When now we add

to this great sensitiveness to cold, constantly taking cold, something of a history of skin eruptions, marked tendency to suppuration, susceptibility to infectious diseases, imperfect recovery from acute diseases, and foulness of all discharges and eruptions then we have the picture quite complete. I do not mean to say that all these symptoms are always presented, but I do say that the tendency to them is never absent.

In my practice among the Portuguese children in the Hawaiian Island sugar plantations I had frequent recourse to this remedy. Picture a little one playing out in the yard, often with nothing but a little shirt on, puny, sickly, starved looking, with a belly like a frog, skin like parchment, a discharging ear that smells to heaven, crusty eruption somewhere, hair like that of an old cadaver, and now and then see him pick up a handful of dirt and eat it, and you have a fairly good idea of a typical psorinum picture. This was no uncommon sight there, and this remedy under even moderately favorable conditions would work marvelous results.

Few remedies are more often indicated in atrophic rhinitis with ozena and old offensive otorrheas that have a brown discharge. And it will not be possible to run one's mind over a very long list of cases of this kind without calling up psorinum pictures; these in fact will rule in the gallery by their great majority.

A careful study of this remedy, paying particular attention to its type, will well repay one for the time spent.

Head Building.

MIDDLE EAR INFECTION RESULTING IN TIC DOULOUREUX, SINGULTUS AND PERMANENT PARALYSIS
OF THE LEFT VOCAL CORD.*

(With Notes by Ralph I. Lloyd, M. D.)

L. L. DANFORTH, M. D.,

New York.

THE case I am about to report presented such unusual features and appeared to yield in its acute form so satisfactorily to homœopathic remedies that I am sure it will merit your attention and I hope stimulate a worthy discussion.

The early history of the illness is very incomplete and unsatisfactory. The patient, Mr. P. I. C. (æt. 60), was taken ill February 16, 1911. I saw him for the first time on March 9. During the interval between these dates he was under the care of another physician. The following account of his illness prior to my first visit was given to me by the patient himself: On February 16 he began to have pain in his left ear, left tonsil and left naso-pharyngeal passages. Notwithstanding these symptoms the patient went to the country on February 19; before he could return home a heavy snow storm set in and he felt, as he expressed it, "as if he had taken a fresh cold." On Tuesday, March 21, he went to his office, but felt so ill he returned home; on his way he stopped at his physician's office. During the period from February 16 to 21 he suffered with severe pain in his throat and ear. On the 22d his physician called at his home. The patient grew rapidly worse; he described the pain in the ear as "throbbing, beating, pulsating, exactly as if an abscess were developing." The physician said he had the "grippe," but did not attach much importance to the symptoms. By this time the patient was confined to his bed. Singultus began slightly on February 22 (six days from the beginning of the illness); it came in paroxysms at first, but on March 1 it became continuous. About this time severe pain and extreme tenderness to touch developed on the left side of the face; the pain in the ear continued. Morphia

*Read before the Bureau of Neurology at the semi-annual meeting of the Homœopathic Medical Society of the State of New York, October 11, 1911.

hypodermically was given to relieve pain and the fluid extract of gelsemium had been given and I think was being taken at the time I was called. At my first visit, on March 9, hiccough had been present fifteen days and continuously during this period for nine days; the tongue was dry and brown, like a piece of leather; the skin was clammy and cold; pulse weak; temperature from 100° to 101° ; absolute loss of appetite—in fact, loathing of food with a persistent sweetish taste in the mouth; voice husky with slight excess of saliva; left side of head and face was protected from drafts of air by a light silk shawl thrown over the head on left side; touching the hair or face ever so lightly was very painful; it seemed as if individual hairs were sensitive, and the slightest motion of the air of the room caused distress. The most painful points were at the foramina of exit of the supramaxillary, inframaxillary, nasal and inferior dental branches of the fifth nerve; patient could not lie on the left side on account of this excessive sensitiveness of the entire left side of face and forehead. I examined the left membrana tympani and observed it to be bulging slightly, infiltrated and moderately red. An examination of the urine revealed microscopically 16 hyaline and 2 granular casts per ounce of specimen; no albumin; no sugar; no acidosis; 287 grains of urea in 24 hours and a few uric acid and oxalate of lime crystals; indoxyl decidedly in excess; the bowels were very constipated. The husky voice which has been referred to had become in the course of the second week of my attendance almost complete aphonia: by great effort a hoarse sound could be produced, but without great effort the voice was a whisper. With the evident laryngeal involvement there was a great excess of saliva, a ropy viscid mucus which “drooled” from the mouth when patient was asleep, so that gauze napkins had to be kept in position to collect the discharge; when voluntarily expectorated the mucus was adherent to the vessel and was emptied in long ropy strings. The laryngoscope revealed considerable œdema and redness of the glosso-epiglottic fold, of the epiglottis and the pharyngo-epiglottic fold; in fact, there was redness and œdema of all the tissues about the larynx; the left vocal cord was paralyzed; under forced attempts at phonation there could be seen a slight effort on the part of the adductors to contract, while during inspiration the cord was completely relaxed; the ventricular bands were congested as was likewise the mucous membrane covering the arytenoid cartilages. Not being skilled in such examinations and in diagnosing such conditions I could not be sure

whether the adductor or abductor muscles were most involved, but I thought both were about equally affected, and the paralysis denoted an affection of both the superior laryngeal and the inferior or recurrent laryngeal branches of the pneumogastric nerve. There was no paralysis of the soft palate; no ocular deviation; no suggestion of meningeal irritation; no deviation of the tongue; the respiration, especially when sleeping, was somewhat irregular and slow; there was no typical Cheyne-Stokes breathing; neither sternomastoid nor trapezius muscles were involved.

That this case presented peculiar and unusual symptoms and was extremely serious in its nature, involving as I thought it did important cerebral nerves, is quite evident from its history. The etiological basis was, I believe, a "grippe" infection, the particular variety of bacterium causing it I am unable to state. So far as treatment is concerned any one who knows the symptomatology of homœopathic remedies could not fail to perceive in the symptoms of the patient a marked correspondence to those caused by *Cuprum metallicum*. The constant spasm of the diaphragm (hiccough) which had been continuous for nine days, and more or less for fifteen days, was a very serious symptom. I realized that it must be checked very soon or the patient would die from exhaustion. Cramps, convulsions, spasms in the most violent form, as well as the sweetish taste, are symptoms very characteristic of this remedy. I therefore gave *Cuprum met.* 3x, 3 tablets every two hours. The hiccough began to abate in severity within a day, and each day thereafter it slowly but surely lessened, until within four or five days it was practically gone, and the general condition of the patient had correspondingly improved. I gave no other treatment at this time except a saline to move the bowels and s. s. enemas daily.

The laryngeal symptoms, hoarseness and discharge of stringy viscid mucus were relieved by *Kali bichromicum* 3x. The discharge of stringy saliva was particularly annoying. This remedy relieved this symptom promptly and completely, but the aphonia was not relieved and still persists; the patient speaks in whispers. I examined his larynx a few days ago. The epiglottis drops over toward the front on the left side; the left vocal cord is completely paralyzed; there is a slight attempt at adduction on forced effort at phonation, but on inspiration it drops away and seems completely paralyzed. There is also partial anesthesia on left side of larynx and epiglottis.

Spigelia 30 relieved the hypersensitive fifth nerve. The symptoms

indicating this remedy were as follows: in the first place spigelia is essentially a neuralgia remedy; it affects all the branches of the fifth nerve and all the symptoms are aggravated by touch, motion and drafts of air; relieved by warmth. All the pain in the left side of the face was ameliorated within a day or two and steadily improved until its entire disappearance in the course of a week. He was under my daily care for about three weeks and altogether about one month.

I will conclude by presenting as an addendum notes made by Ralph I. Lloyd, M. D., which will add very greatly to the value of this report. I was unable to explain satisfactorily to myself the sequence of intracranial events which must have been going on in this man's brain at the time of his acute illness, and it was because of this lack of knowledge that I mentioned the case to Dr. Lloyd. His illuminating and comprehensive explanation will be appreciated by all who are interested in this report, and to him I extend my heartiest thanks.

Dr. Lloyd writes: "Two or more cranial nerves involved at the same time suggest at once a lesion at some point where the nuclei or the nerves are in proximity. This may be in the medulla (pons included); in the different cranial fossæ—as in anterior, where the olfactory and optic are close together, also the 3d, 4th, 5th and 6th. Or it may be in a cranial exit (as in the internal auditory meatus where the 7th and 8th pass out). Cases of this kind are grouped as multiple cranial nerve lesions. In this case there is an irritative lesion of the 5th and irritation and paresis of the 9th and 10th group. Slow and irregular breathing and paralysis of the left vocal cord show the last group involved. It is difficult to show involvement of the glossopharyngeal nerve alone, and it is therefore grouped with the 10th."

According to W. G. Spencer (*Lancet*, 1895, I., p. 476) "afferent respiratory regulating fibers and respiratory exciting fibers (inspiration) are found in the 9th. Afferent respiratory fibers (inhibitory) are found in the 10th. The motor fibers of the larynx come from the nucleus of the spinal accessory and pass to the 10th near its exit from the skull." A lesion which would involve the nuclei of all these nerves would indeed be an unusual lesion to produce such symptoms as are found in this case and not at the same time affect other cranial nerve nuclei and the motor and sensory tracts which are in close relation. It is therefore reasonable to rule out nuclear lesion. If a localized meningeal lesion were urged as an explanation the fact that the motor root

of the 5th nerve was not involved might seem to some a good reason for dissent.

Aldren Turner (Albutt's System, Vol. 7, p. 824) "points out that it not only is not unusual, but highly suggestive of a localized meningeal lesion. The 9th and 10th nerves are to be found just below and external to the meningeal pocket in which the Gasserian ganglion is located.*

We believe this to have been a case of localized osteoperiostitis and meningitis at the apex of the petrous portion of the temporal bone, secondary to acute inflammation of the middle ear.

"One group of 95 such cases has been reported. About 60 of the last group were operated for mastoiditis. The rest were not operated because there was no mastoid involvement, and ear disease was not severe. Autopsies show several routes of infection. One is along the diploe—about the Eustachian and then to the apex. Another route is beneath the internal ear to the posterior surface of the petrous near the internal auditory meatus and thence to the apex. This last route would most fully explain this case. Most of the cases of acute otitis with this apical involvement show paralysis of the abducens; and abducens paralysis, neuralgia in all the branches of the 5th nerve, and an acute middle ear trouble are known as Gradenigo's Triad. Attention is called to the fact that otitis, neuralgia and vocal paralysis are all on the same side."

*See illustration facing page 247, July issue.

THE USE OF THE SILVER SALTS IN OPHTHALMIC PRACTICE.*

JOHN L. MOFFAT, B. S., M. D., O. ET A. CHIR.,

Brooklyn-New York.

PRACTICALLY the only silver salt that has been proven, that is that can be prescribed homœopathically, in eye diseases is the nitrate.

Bradford's Index to Homœopathic Provings (1901) mentions **Argentum chloratum** (muriaticum) in which Lembke's proving notes "severe shooting in right eyelids" and "pain on right lower orbital border."† Bradford also mentions the cyanide, the iodide and the ammonium muriate of silver; but these provings are not of convenient reference and these salts are not used in ophthalmic practice.

Homœopathically, we know that **Argentum nitricum** administered internally acts very satisfactorily in ophthalmic practice when called for by its symptoms; the writer's experience of this is limited to the 3d (6x) and 200th potencies.

For internal prescribing of this, as well as of any remedy, the patient must be treated not the disease; the more thoroly the totality of the symptoms is pictured the higher may be the potency. It may therefore be well to remember some of the characteristics of this remedy.

Mentally, while there is depression, irritability—may be from brain fag—the most prominent symptom is *hurry*; the patient is over-anxious, the anxiety may bring on complaints. He walks fast and the faster he walks the faster he thinks he must walk. He makes mistakes in estimating distances. There is trembling and nervous weakness; paresis; muscular inco-ordination. He throbs all over. Staggering, in the dark or with the eyes closed. The body, or a part of the body, feels large or expanding. The principal aggravations are: *warmth*; 11 a. m.; lying on the right side; the menstrual period.

Argentum nitricum is one of our most flatulent drugs, and one of

*Presented to the N. Y. State Homœopathic Medical Society.

†Cycl. Drug. Path., v., 347.

its most prominent spheres of action is the mucous membrane, which is inflamed to ulceration with profuse discharge of thick, yellow bland pus.

In the eye there is paresis of accommodation; print is indistinguishable at close distance, letters blur, with anxiety. Gray spots and serpent shaped *muscæ* float before the vision.

Argentum nitricum is the first remedy to think of in acute conjunctivitis with marked thickening and congestion—infiltration—of the lids, caruncle or ocular conjunctiva, may be with intense pain or photophobia, intolerable in the warm room or from warm applications. The discharge is also profuse, thick, yellow, bland pus, the palpebral conjunctiva looks like plush, and until the stage of ulceration one may have to look for guiding symptoms elsewhere to differentiate from *pulsatilla* which is also better in the cold—cool—air, but which is not so nervously intolerant of heat. Ulceration, however, is wanting in the *pulsatilla* patient, and is very marked under *argentum nitricum*; with this we naturally find photophobia and congested vessels running to the cornea when that is the site of the ulcer. In short the *argentum nitricum* picture is that of *ophthalmia neonatorum* and gonorrheal *ophthalmia*.

The margins of the lids may be red, sore and thickened, with but little secretion.

So much for the internal medication.

Local applications, used with good judgment, undoubtedly have an important, an essential, place in ophthalmic practice, and among them the silver salts are perhaps the most important because—next to cleanliness—they afford the best single means in the prevention of blindness from conjunctival or corneal inflammation.

The following salts of silver have been used in the eye, but practically only the nitrate, *argyrol* and *protargol* are used to any extent; the last named seems to be losing ground of late to *argyrol*, particularly in this country.

Actol (silver lactate)—soluble 1:25 in water and in albuminous liquids. Very antiseptic. More painful than *itol*.

Argentamin—a colorless alkaline liquid consisting of an 8% solution of silver phosphate in a 15% solution of ethylene diamid. 1:4000 for the conjunctiva.

Argenti nitras—lunar caustic, a powerful astringent, an escharotic of moderate strength. It contains 65% of silver. If applied too long

it makes a stain (argyrosis, argyria) of skin or mucous membrane, granules of silver deposited in much the same manner as the natural pigment of the skin.

Argenti nitras fusus (U. S. P.)—"stick caustic" contains 4% silver nitrate.

Argenti nitras mitigatus (U. S. P.)—the stick caustic is fused with an equal amount of potassium nitrate.

Argonin—Casein and silver; a crystalline salt soluble in water of which 15 parts equal one part of silver nitrate.*

Argyrol (silver vitelline)—a soluble combination of a proteid of wheat with 30% of silver.

Collargol (colloidal silver, argentum Cr  d  )—metallic silver triturated with water forming a greenish black fluid. An ointment for septic diseases.

Electrargol—colloidal silver obtained with electricity—gives encouraging promise in mucous suppuration as well as in other spheres. It is nonirritating, absolutely painless and nontoxic. Cases are reported of the collyrium, a drop once or twice a day, affording immediate relief and prompt cure of ophthalmia neonatorum, phlyctenular kerato-conjunctivitis, trachmatous conjunctivitis and a traumatic infected ulcer with hypopion. Two cases of chronic otitis were painted with electrargol and two of purulent mastoiditis injected with almost as brilliant results, while a case of nasal sinusitis with ozena was apparently cured (other treatment and operation having been inadequate) with nasal tampons saturated with electrargol.

Ichthargan—30% of silver combined with ichthyol-sulphonic acid.

Itrol (silver citrate)—a fine dry powder, soluble in 3800 parts of water. A surgical antiseptic and disinfectant. 1% to 2% ointment or 1:4000 solution.

Largin (silver protalbin) contains 11% of silver. A grayish white powder readily soluble in water and glycerole; is a bactericide.

Nargol (silver nucleate)—10% of silver oxide combined with nucleic acid; it blanches the conjunctiva.

Protargol—a silver albumose occurring as a yellow powder containing 8% of silver; is freely soluble in water.

Silver sulphocarbolate (S. sulphophenate)—a noncorrosive antiseptic occurring as a fine crystalline powder containing about 28% of metallic silver.

*Darier—Ophthalmic Therapeutics, p. 188.

In Fuchs' clinic at Vienna the conjunctiva is painted with

Arg. nit. 2%—douching with water or salt solutions.

Argentamin 5% to 10%—subsequent douching;

Ichthargan 3%—no douching afterward;

Largin 10%—no douching;

Protargol 10% to 20%—no douching;

Itrol 10%—no douching;

Nargol 20%—no douching; it causes very little pain;

Argyrol 20%.

Even in gonorrheal ophthalmia Fuchs does not use the nitrate any stronger than 2%. Hanke (1905) states that "touching with 10% to 20% silver solution or with the silver stick is not to be recommended, because the depth of its action can not be controlled and there is danger of cauterizing the cornea if the excess of silver be not immediately and very thoroly neutralized with salt solution."

Curt Adam, of Berlin (1909), also considers 2% strong enough to abort acute catarrhal conjunctivitis; the nitrate, $\frac{1}{4}\%$ to $\frac{1}{2}\%$, is the best instillation if this is caused by the pneumococcus. He does not use it stronger than 1% in ophthalmia neonatorum, even if gonorrhoeal, while he testifies that "the treatment of gonorrhoeal ophthalmia by the silver preparations—tho so successful in infants—fails altogether to give correspondingly good results in the adult." He avoids the nitrate "unless the lids are densely infiltrated." (He there prefers "blenolenicet ointment" which consists of dehydrated acetate of aluminum with euvaseline; this rapidly reduces the amount of discharge and shields the cornea from maceration by the pus.)

Sidney Stephenson finds prophylaxis by the nitrate better when used in solutions weaker than 2%.

As to the relative merits of nitrate of silver, protargol and argyrol a few figures may help one to form an opinion, but the subject is too vast to be covered within the limits of this paper.

Darier says (1910) "most of those who still prefer silver nitrate have had poor success with the organic salts of silver because they have not used the latter in doses massive enough nor have they repeated the application often enough." He considers that argyrol and protargol complement each other, giving argyrol for home use and frequent repetition. Both salts should be used fresh and kept from the light—in amber glass.

Protargol is an antiseptic, say Darier, as the nitrate and relatively

unirritating and harmless. To prepare a solution of protargol the powder should be sprinkled on cold water and allowed to dissolve spontaneously, without shaking.

Argyrol is even less irritating than protargol, a 50% solution is absolutely painless, and like it—possibly more surely (owing to this and its greater content of silver)—penetrates to the conjunctival folds and crypts and to the deepest layers of the mucous membrane, very much deeper and more surely than the nitrate which precipitates albumin. Strange to say, argyrol is less antiseptic than protargol; the latter should be applied only by the physician and with circumspection.

Sometimes the discharge is stopped so quickly by these organic salts of silver that treatment is stopped under the misapprehension that the case is cured; suppuration may then return and the relapse yield only to the more violent caustics such as ichthargan or the nitrate.

Stadtfeldt (*Oph. Year Book*, 1910) reports studies in the treatment of **ophthalmia neonatorum** at the Copenhagen Municipal Hospital from 1898 to 1907.

Silver nitrate: of 144 eyes with intact cornea 13% developed corneal complications with 5.3% of perforations.

Protargol in 323 similar cases, 8.7% corneal complications developed with 6.2% of perforations.

Argyrol, 115 similar cases, 5.3% corneal complications, 1.7% perforations.

Gonorrheal conjunctivitis in children: 32 cases (42 eyes).

10 treated with the nitrate, perforation 4 times = 21%.

13 with protargol, 3 perforations = 23%.

8 with argyrol, there were no perforations.

Gonorrheal conjunctivitis in the adult, 19 eyes: in 7 treated with nitrate of silver there were 2 perforations—28.5%; 7 treated with protargol had 3 perforations—42.8%; 5 were treated with argyrol, with no corneal perforations.

In bactericidal action Stadtfeldt thinks argyrol stands between the nitrate and protargol.

Cheney, at the Massachusetts Eye and Ear Infirmary, prefers protargol to the nitrate for this disease in the vast majority of cases. He suggests that catarrhal inflammation caused by too strong applications of nitrate favors the development of ophthalmia neonatorum if any gonococci remain undestroyed.

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COMPLICATIONS OF INTERSTITIAL KERATITIS.

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SYPHILIS of the eye thru its many sidedness belongs among the severe manifestations of syphilitic diseases, since the cornea, sclera, choroid, retina and optic nerve can be involved. This severity is explained by the histological nature of the diseased organs. When a gumma of the skin breaks out and a more or less large loss of substance takes place, the life of the organ is not placed in question. In the eye the smallest lesion brings scar tissue as a result, which substitutes the specific tissue of that organ and thereby the function is considerably interfered with. The syphilitic course can be mild or severe, but when an eye is affected in the posterior parts, disregarding iritis, the process manifests itself in a severe form.

The eye complications of hereditary syphilis can show themselves very early. Already in the first month of extra uterine life, also much later in the age of puberty—yes, in a full grown adult. There are two quite typical changes in the eye as a result of hereditary syphilis. First, peripheral retinochoroiditis, which appears quite early; because of its characteristic appearance it has been called the salt and pepper choroiditis. Second, interstitial keratitis. Less frequent ocular disturbances are nystagmus, strabismus, ptosis and paralysis of accommodation.

Interstitial keratitis is not only the most frequent ocular manifestation of hereditary syphilis, but also the latest. Books lay stress on the time of its appearance between eight and twenty, but it can be intra-uterine and quite frequently occurs in children. It is simply surprising to see so many younger children affected in the Vienna eye clinic, and this proportion is a very high one in comparison to all of the cases of interstitial keratitis under treatment. According to Groenow, of Breslau, three per cent. of the cases occur in acquired syphilis, but here it runs a different course: usually one sided, less intense in opacity and responding to mercurial treatment. A very small percentage is due to tuberculosis, but this form is quite characteristic in itself, the infiltration being nodular and irregularly spread on the corneal surface. Secondly, large yellow precipitates on the

posterior surface of the cornea, which speak quite suspiciously for tuberculosis. Thirdly, the indolent type of the disease, very little reaction.

Interstitial keratitis of traumatic origin is recorded in literature. I have been fortunate enough to see such a case, a German, who in the course of a traumatic iritis resulting from a blow upon the eye, developed a typical one-sided keratitis interstitialis. A Wasserman reaction was taken and found positive. The relation between trauma and interstitial keratitis is not known; the Germans place these cases under the title of "Gelegenheitsursache."

Interstitial keratitis begins as an infiltration in the deep layers of the cornea, followed by vascularization, then resorption. Suppuration rarely occurs. Anatomically, very few cases have been examined. The anterior layers of the cornea have been found normal. The cornea is thickened due to an infiltration in its posterior layers; this infiltration begins in the lymph spaces between the lamelli of the cornea in the form of polynuclear leucocytes, the whole process taking months before the cornea is cleared up.

Constitutional diseases affect both eyes usually. Embryologically, the deeper layers of the cornea correspond to the uveal tract. These facts hold good in interstitial keratitis, although the one eye may be quite free for sometime. Therefore after establishing the diagnosis the patient must be warned that the second eye will be attacked. This usually occurs during the process of the first eye, but at times may be delayed three or four years longer. All schools, therefore, recognize the condition as constitutional. Michel considered it as enarteritis syphilitica of the marginal loops and ciliary vessels at the limbus. Leber and his school considered it as a continuation of the inflammation of the uvea. Now it has been demonstrated that the apparently normal transparent cornea of a syphilitic individual contains spirochæte [treponema] and that interstitial keratitis is a primary disease of the cornea.

FORMS.

Clinically several forms are recognized. First, beginning infiltration in the center of the cornea without much reaction. This is the indolent type, slowly spreading out laterally until the whole cornea is opaque; it may or may not be accompanied by the invasion of the vessels from the limbus on all sides. The other form begins as a violent iritis. Intense ciliary injection and precipitates on the poste-

rior surface of the cornea. Gradually the opacity creeps from the limbus to cover the cornea; this takes place in a straight line, vascularization following it directly across the whole cornea. This fact must be borne in mind in order to judge which stage the disease is in.

Affections lying on the anterior or posterior surfaces of the cornea are sharply outlined in form; affections in the corneal stroma have a diffused form. Normally the corneal surface is smooth and reflects a light image. A dullness of this reflex points to some pathological condition which may be keratitis, glaucoma or iritis. This is due to a change in the corneal epithelium of an edematous nature due to a disturbance of the lymphatic circulation of the cornea by the above processes. Hence from an external examination we see a roughening of the corneal surface, diffused opacities of a quite characteristic color, somewhat sky blue. In the vascular form the vascularization of the cornea can become so intense as to give the eye a dark scarlet color. In general we may say vascularization is a good sign. There will be less danger of a remaining infiltration in the cornea and the duration of the disease is much shorter. Its disadvantages are the remaining of the lumen of the vessels, which produces a moderate degree of astigmatism. These remains of vessels are permanent and persist with fine threadlike opacities, which can be exactly seen with a plus twenty lens in the ophthalmoscope. Another drawback, is that the corneal tissue formed from the leucocytes of the blood is of a coarser quality, of a different refractive index, than corneal tissue which is formed from the corneal corpuscles themselves. This latter process is the nearest approach to the true corneal tissue.

The resorptive stage is usually without any complications except occasionally it may require a longer time; unfortunately resorption in the middle of the cornea is slower than at the periphery. As to sight the prognosis in this disease is a good one. Considering the alarming disturbances of vision at the height of the disease, the majority of cases turn out with restoration of good vision. As to duration, prognosis is a bad one. The length of time for the three pathological stages varies from two months to eight months or longer.

Now as to the main subject of this paper, the complications. Complications are always of a severe nature and involve the sight heavily.

First, sclerosing of the entire corneal tissue—the cornea becoming completely opaque. This complication I have seen in two avascular forms. This differs from the mild cases of non-absorption by the

fact that both corneæ are involved and nowhere can traces of resorption of the infiltration be seen. A total sclerosis or a substitution of scar tissue takes place, the patient becoming completely blind.

Second, acute hypotonia of the eye. Low tension is usually encountered in interstitial keratitis. If it persists for a long period grave fear for the safety of the eye must be entertained lest the end result will be a shrinkage of the whole eye—phthisis bulbi. Absolute rest in bed with medicinal remedies is the therapy for this stage. In acute hypotonia there is a sudden lowering of the tension of the eye to such an extent that the eye becomes a pultaceous mass. Of the cases I have seen, one occurred during the night. This was the case of a child twelve years old, who was seen at the evening visit in the wards with good light perception and visible objects recognized, tension fairly low, who in the morning's visit had complete loss of tension. Naturally a retinal detachment must have occurred, but according to Lauber this is secondary. The primary condition is not known. Lauber has but recently drawn attention to this condition of acute hypotonia occurring in the course of iritis and even glaucoma. For this severe complication an enucleation is the only therapy; otherwise a violent iridocyclitis which accompanies retinal detachment appears. Fortunately these two complications above mentioned are rare, but a knowledge of their existence is necessary so that we may recognize them when present.

Third, glaucoma. One of the most important tasks of the oculist in treating interstitial keratitis is the constant attention to the tension of the eye. To begin with the surface of the cornea is dull; the anterior ciliary veins are more or less injected, hence these two accompanying symptoms attract no particular attention. Glaucoma can be met with in the beginning or at the very height of the disease; it is usually due to closing of the filtration angle with leucocytes from the iritis or of a disease of the arteries known as endarteritis syphilitica. It is a very unpleasant complication and acute rises of tension are not so infrequent; they yield to the milder measures, either eserine or sclerotomy. The necessity for iridectomy I have seen only in two cases. Complicating the beginning stage of interstitial keratitis, I have seen glaucoma in a German student whose corneal condition began as an iritis, upon which was grafted an attack of acute inflammatory glaucoma which for weeks resisted eserine, posterior sclerotomy and iridectomy. This condition was bilateral.

Fourth, iridocyclitis. Of course a varying degree of iritis is present in all cases of interstitial keratitis, but the complication I refer to is that form of iridocyclitis which Meller holds quite characteristic by the severity of its pain and the production of a fibrinous hypopion, which completely fills up the anterior chamber. This is rather striking since interstitial keratitis is characterized by absence of hypopion, just as *ulcus serpens* is characterized by its early appearance; but syphilitic processes of a severe nature involving the uveal tract quite frequently have this large hypopion.

The other form of iridocyclitis is of a chronic nature, with hardly any inflammatory reaction, which persists long after the corneal condition has cleared up. Also it is a most frequent form in which the keratitis is prone to have its occurrences. Again, it may be the only manifestation in the second eye.

Fifth, peripheral choroiditis. This is present in a large proportion of cases, although at times rather difficult to diagnose because of the opacities. Its presence indicates a more serious prognosis as to vision. It usually clears up without involving the other parts of the choroid.

Sixth, optic neuritis of a mild degree usually accompanies the choroiditis, but I want to take this opportunity of discussing a case of interstitial keratitis complicated with optic neuritis terminating in the most marked case of secondary atrophy which I have ever seen. A boy of fourteen, sent to me March 1st, with a history of having had interstitial keratitis in both eyes since June, 1910. From October to February, out of ignorance, the patient refused treatment. Alarmed because of the duration of the disease, treatment was begun on the first of February. The corneal opacities cleared up slowly, but the vision remained always very poor, counting fingers at one meter with one eye and at six meters with the other. Dr. Dunning, of Columbia, consulted me. Optic neuritis undergoing atrophy was seen. Patient was sent to the Hahnemann Hospital and after two months the corneal opacities quite cleared up; secondary atrophy plainly seen. Having a myopic eye, a beginning divergent squint developed.

True suppuration of the cornea I have never seen, but in my record from the Universities of Breslau and Vienna eye clinics, 1908-1910, I have recorded one case of interstitial keratitis with corneal suppuration. However the same patient was afflicted with exanthematous keratitis, which undoubtedly was the causative factor.

Finally, diminished hearing of an acute and lasting nature is moder-

ately frequent. It must be remembered a large proportion of the hereditary syphilitic patients have diminution of hearing; this usually gets worse during interstitial keratitis. The same relation of increasing deafness occurring in cases of sympathetic ophthalmia has been quite recently espoused by Lauber.

Radium Therapy in Eye Disease. Arnold Lawson and Davidson J MacKenzie, *Brit. Med. Jour.*, apply directly to the affected part (after the eye is cocainized) radium in sealed glass tubes, permitting only the passage of the beta and gamma rays. The operator's fingers are protected by wrappings of lead foil. Forty-six cases are tabulated and details of the treatment given. Five minutes' exposure was given, as a rule, but in one case of rodent ulcer a tube of twenty to thirty milligrammes could stay for one-half hour on the lid without causing any ill effects to the eye. The frequency of the exposure was determined by the nature of the case, but if a large dose was used a week was generally allowed to elapse between treatments. The immediate effect to the eye was practically nil—slight photophobia and irritation. A few hours after the sitting some patients complained of pain, which in a few instances was severe enough to cause a sleepless night; usually this passed off within twenty-four hours, but in one or two instances it lasted for several days. Only one case had retinal symptoms: the patient was suffering from an attack of episcleritis and a large amount, 50 mg., was applied for five minutes to the sclerotic. For two hours the patient noticed flashes of light. After the first irritation of the treatment had worn off, the subjective symptoms speedily improved and pain subsided. This speedy anesthesia, if it may be so called, is a very striking feature of the treatment of ulceration of the cornea. In the treatment of ulceration of the cornea, especially of intractable cases, the results were universally good with one exception. Certain non-ulcerative acute inflammations of the cornea and sclera were treated. Severe cases of interstitial keratitis were treated and one or two rather striking results obtained. Spring catarrh was very successfully treated. Corneal nebulæ did not improve much, but the authors think that a more extended effort should be made in this class of cases.—*Abstr., Hahn. Mo.*

Amblyopia From the Inverted Position. A seven year old boy had vision of only 20/100 in each eye. The retinoscope showed a hypermetropia of one diopter and the ophthalmoscope a chronic passive congestion of the fundus, no cause for the condition could be found except that he had been in the habit of *standing on his head and hanging by his feet* at frequent intervals, and for considerable periods of time, in imitation of acrobat performers. An upright position was enjoined and in due time the vision became 20/20 with one diopter of hypermetropia.—*Dr. Fred. McKenny Ruby, Ophthalmology.*

HISTOPATHOLOGY OF THE OPTIC NERVE.

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THE optic nerve has the following tracts from the cranial base outward: first, optic nerve roots; second, optic tracts; third, chiasm; fourth, intracranial portion; fifth, intra-orbital and intrabulbar portions. The optic nerve is surrounded by three sheaths, which are the direct continuation of the meninges, therefore are best named dura, arachnoid, pia. These join the optic nerve at different levels, and have the same structure and serve the same purpose as in the brain. The dura begins at the foramen opticum and serves as periosteum to the foramen; it divides into two sheaths, one going to the periorbital fascia, the other continued as the dura proper of the optic nerve. Clinically this knowledge is not unimportant, for it explains optic neuritis where bone tissues are primarily affected, as in osteomyelacea, empyema, senile sclerosis. Tandler claims that decalcification of this foramen may account for eye symptoms in pregnancy, but this is very exceptional, as the neuritis or choked disc here depends usually on a renal basis.

Between dura and pia is a broad lymph space—the intravaginal lymph space—which communicates with the subdural space of the brain and ends blindly in the sclera as a cul de sac. Macroscopically we can distinguish the connective tissue septa from the enclosed nerve bundles. All septa originate from the pia, and we distinguish primary and secondary. The object of the septa is to enclose communicating spaces, their shape being polyhedral; in animals they are rounded. They consist of thick connective tissue containing a few spindle-shaped nuclei, and also serve for the path of blood vessels. Within the septa are found nerve fibers and neuroglia. The nerve fibers are of different calibers, large and small; these different calibers of fibers are now brought into a relationship with the different functions of the fibers of the optic nerves, the fine fibers being the visual fibers and the thick ones the pupillary reflex fibers. The whole length of the optic nerve

is supplied with neuroglia which intermingle with the nerve fibers, serving the same purpose as the neuroglia in the white substance of the brain and distinguishing the optic nerve from other nerves, for after the exit from the central nervous system the neuroglia follow the nerves but a short distance.

Just a paragraph to the Fuchs peripheral atrophy or better the neuroglia mantle. In 1885, Fuchs discovered peripheral connective tissue septa concentric with the nerve sheaths which he called atrophic bundles, because of the absence of nerve fibers. At places these atrophic bundles are in direct communication with the nerve fiber bundles. For the cause of this so-called atrophy Fuchs expresses himself: "I believe that the described atrophy is a pathological process and appears in all persons, cause of which is either a compression of the blood vessels or mechanical or chemical injurious action of the lymph." Fuchs was confirmed by all investigators, but not until Wagenman and Von Graefe found these atrophic bundles in the new born and their true significance, namely, a neuroglia mantle or covering around the optic nerve just as in the brain and spinal cord. The central vessels enter in the lower outer quadrant ten or twelve mm. from the globe, the artery usually behind the vein and carrying with it pial tissue.

I will make a brief review of the histological anatomy of the entrance of the optic nerve into the eye. Remember, in order for the fibers of the optic nerve to get into the inner layers of the retina they must perforate a channel through the sclera (the supporting tunic of the eye), the choroid (its vascular tunic), and the retina (the visual tunic). This channel is called the foramen scleræ. The entire length of the optic nerve from its cranial origin down to its intra-ocular portion is surrounded by the meningeal coverings of the brain with their subdural and subarachnoid spaces which end blindly in the sclera. The behavior of the sclera deserves especial attention. The external layers curve and become continuous with the dura. The internal fibers bridge across the optic nerve in interlacing bundles. This set of fibers has a special function and hence a special name, lamina cribrosa. It is here that the optic nerve fibers give up their medullated sheaths. Secondly, it represents the place in the optic nerve where normally the fibers of the nerve themselves are compressed. Thirdly, it represents the place of least resistance of the eyeball to pressure. Its fibers take a transverse direction. Any pressure from the eyeball pushes it backward, hence it is the active agent in the production of

the glaucomatous cup. Any pressure from behind causes it to bulge forward, as seen in choked disc. Fourthly, the lamina cribrosa contains vessels which establish a communication between the choroid, the central vessels of the retina and the circle of Zinn—in other words a direct communication between the choroidal and retinal circulation. The bifurcation of the fibers of the optic nerve behind the level of the retina gives rise to a central depression of the nerve head, the so-called physiological excavation. It is important to remember that this is always partial, never taking up the width of the optic nerve entrance, and that its shape and size depend on the size of the foramen scleræ. If the latter is narrow, the optic nerve fibers have little space in which to bifurcate, with the result of a condition known as pseudo neuritis, a very difficult diagnosis to make in hyperopia or short eye where the retinal vessels, because of lack of space, take on an increased tortuosity.

The form of the foramen scleræ depends on the manner the tunics of the eye terminate at the optic nerve. There are three chief types, as follows:

(1) The most frequent type being where the canal gradually becomes narrower, the choroidal being the narrowest entrance of the optic nerve. This type of foramen is called the conical shape.

(2) The conical parallel type: its anatomy is as follows: The narrowest point of the scleral foramen is at the inner layers of the sclera and from here on the whole canal becomes broader. Clinically this type of scleral canal is represented by a large physiological excavation.

(3) The double conical type of the scleral foramen.

An anatomical point comes of much service in the diagnosing of choked disc, namely, the temporal side of the optic nerve contains less fibers than the nasal, and therefore, normally, would be less prominent, hence beginning choked disc is always more marked on the nasal side.

We often speak of the semidecussation of the fibers of the optic nerve, but let us not forget that a semidecussation also takes place in the macular papillo bundle and the pupillary fibers. The macular papillo bundle cannot be singled out histologically. We are indebted to Samelson for the tracing of this important bundle which was later, in 1886, confirmed by my former chief, Uthoff, in his studies of six cases; now the position and course of this bundle can be traced from the eye to the brain.

The test of a good ophthalmologist is to determine a normal fundus,

especially when the neurologist would like to have an eye finding either for or against his diagnosis. I will briefly sketch out the more important normal varieties of the fundus.

Pseudoneuritis, mostly found in hyperopia. Because of spatial relations the arteries and veins run a more tortuous course, also the retinal vessels are prone to congestion because of the excessive accommodation. The neuritic appearance of the nerve is due to the shape of the conical foramen scleræ. The differential diagnosis given by the Vienna teachers is the presence of the excavation and absence of exudate along the vessels in pseudoneuritis. Often we are unable to bring vision up to normal. Upon close examination of the disc we find the trio which Wintersteiner impresses upon his students: inferior inconus, inversion of the retinal vessels, hyperopic astigmia. The inferior inconus is viewed as a rudimentary coloboma of the optic nerve or the neighboring choroid. There is but one anatomical examination, by Saalzman, who regards it as a coloboma of the choroid.

All of us have studied cases where the optic nerve seems quite prominent, possessing an exceedingly large excavation and a slight temporal choroidal atrophy. This occurs quite frequently in the lower grades of myopia and is due to the fact that the optic nerve is slightly wider in myopic eyes and to its peculiar entrance in the eye. In this form of normal optic nerve a beginning temporal atrophy would be very hard to determine, because of the temporal side of the disc which would be pale from the exposure of optic nerve fibers beneath the lamina cribrosa. Remnants of the fetal hyaloid artery need no special care for their diagnosis, but I have seen such a large mass of persistent connective tissue as to render the eye amaurotic. More frequently we find bands of connective tissue around the blood vessels springing from their origin. This we call the *membrana epipapillaris*. This must be differentiated from an exudate. The persistence of ciliary vessels has no practical importance in diagnosing a normal optic nerve, but occasionally we meet with a fundus where all the vessels come off as ciliary vessels. I have seen two such cases. The picture is very confusing if not known.

A beginner in the use of the ophthalmoscope is bothered by the depth of the excavation. Fortunately this has no importance in normal and in pathological conditions (glaucoma), but there are cases in which it is astounding how deep the excavation is. The greatest depth which I have seen was in the Fuchs clinic where the depth of

the excavation was 16 d., the patient enjoying full vision. This depth is quite exceptional, although recently I have examined a patient with an excavation of 7 d. I have stated that the nerve fibers give up their medullary sheath at the lamina cribrosa, but at slightly different levels. In rare cases the medullary sheaths appear beyond the lamina cribrosa. This was anatomically proved in the preophthalmoscopic days by Virchow and later confirmed by Beckman. We consider the change as a congenital anomaly, but Von Hippel gives the intention that in the strictest sense of the word it cannot be congenital. Medullation of sensory fibers occurs late in life and from the central nervous system toward the periphery. This does not reach the lamina cribrosa until one or two months after birth. Certain animals have medullary nerve fibers in the fundus quite constantly, the best known being the rabbit and the hare, where on both sides of the papilla are two broad wing-shaped bundles of medullary nerve fibers. Clinically this condition is diagnosed by its position at or near the papilla, its shape being usually flame-like, and by the fact of the retinal vessels being covered, showing that it must lie in the ganglionic cell layer of the retina. It produces no disturbance of vision excepting an enlargement of the blind spot, but in one case I saw medullary nerve fibers occupying a good third of the fundus; that field of vision was correspondingly reduced.

Under the varieties of normal fundus I will discuss a condition known as "drusen." Although from the cases mentioned in the literature this condition is reported associated with retinitis pigmentosa, nervous disorders and injuries, I have seen three cases of drusen of the optic nerve in otherwise normal healthy individuals. (For the specimen I show you of this condition I am indebted to Dr. Wm. Campbell Posey.)

Inflammation of the optic nerve manifests itself histologically by changes, chiefly proliferative, in the interstitial tissues, and by changes, degenerative, in the nerve bundle. The interstitial neuritis is usually a result of an inflammation of the optic nerve sheaths and anatomically it is indifferent whether it is descending or ascending; the most frequent cause is meningitis. We have a cell proliferation with thickening; later scar contraction follows, the nerve fiber suffering from pressure. Of the primary degenerations tabes offers the classical picture, beginning as a primary degeneration in the ganglionic cell layer in the peripheral parts of the retina. Wagenman made a clinical ob-

servation of great interest: He had a tabetic patient with medullary nerve fibers and could follow the disappearance of the nerve fibers as they underwent atrophy. The absence of proliferative changes makes the clinical picture so characteristic; sharply outlined papilla due to the atrophic excavations, the lamina cribrosa being exposed a gray appearance of the disc follows. The relation of the vision and the atrophic changes in the disc are quite proportionate. It is needless to say tabetic atrophy is an early symptom, one case being on record where the atrophy occurred seven years before other tabetic symptoms appeared; it was classified as idiopathic atrophy until Uhthoff classified these cases under *tabes*. Charcot has a case on record where optic atrophy occurred ten years before the first signs of *tabes* appeared.

Multiple sclerosis is accompanied by a special process in the optic nerve which is quite characteristic and is differentiated from a tabetic, the interstitial neuritis, or retrobulbar neuritis. It is the same process as in the spinal cord, namely, a sclerosis of multiple plaques distributed indiscriminately. Because of its cell proliferation in the septa and new vessel formations, Uhthoff classifies it between tabetic and inflammatory atrophy. The persistence of the axis cylinders accounts for the fact that complete blindness is rare. Absence of secondary degeneration is another feature. We often find normal optic nerve fibers between the sclerosing plaques. Multiplicity of symptoms being characteristic of multiple sclerosis, the same may be expected of the optic nerve findings. They are usually one-sided and in the course of several years the patient may complain of several attacks of poor momentary vision, although the ophthalmoscope reveals nothing. When both nerves are affected the one is more affected than the other and not infrequently we find a temporal atrophy in one eye with a marked neuritis in the other. The disproportion between the fundus findings and the vision is characteristic. Anyone having much experience with this form of atrophy has no trouble in differentiating it from intoxication amblyopia.

Although much attention has been given to the pathology of choked disc, especially as to the mechanism of its production, yet its diagnosis and clinical significance are of greater importance to the oculist. Von Graefe was the first to distinguish intra-ocular conditions as the result of intracranial disease—choked disc, neuritis descendens—for which I can only make a plea for the profession to distinguish and consider each one separate from the other because of the clinical significance,

the one pointing to intracranial affections, the other to constitutional diseases. Having previously discussed this subject separately, I refer the readers to the *Hahnemannian Monthly*, December, 1910.

The first and best known of pathological anatomical changes in glaucoma is the excavation of the optic nerve. On the 8th of March, 1856, Heinrich presented to the medical association at Wurtzburg specimens of a blind patient who suffered for years with glaucoma. His description is good to this day and I will translate part of it. "At the place of entrance of the optic nerve in the bulbus a deep excavation has occurred, to the walls of which the vessels of the nerve adhere. The cause of the glaucomatous or pressure atrophy is due to the lamina cribrosa pressed back from its normal position to the posterior part of the sclera and even at times below its level. Therefore a depression results whose boundaries are the lateral walls of the sclera and whose floor is the lamina cribrosa. At first the nerve fibers behind the lamina cribrosa are normal, but later they undergo an ascending atrophy. This accounts for the gradually diminished vision in a certain percentage of cases after an iridectomy and lower tension is secured. The glaucomatous halo is a choroidal atrophy, but let us not forget that the choroidal atrophy surrounding the disc may occur in myopia (ring cornus) or as one of the changes of senile atrophy of the optic disc. Schnabel and his school (Elschnig-Lauber-Benedict) consider that the excavation is due to a cavernous degeneration—the lamina cribrosa being pulled backward by the shrinking of the connective tissue of the atrophic nerve with a formation of microscopic holes. This cavernous degeneration has been confirmed, but its exact significance must be left to future research. Two years after Schnabel's death Von Hippel reiterated his findings.

Review of the inflammation and degeneration of the optic nerve:

1. Neuritis nervi optici peripherica (hyperemia, reddening and diffuseness of the papilla—either descending or ascending).

(a) Eventual result secondary atrophy—partial or complete.

(b) Choked disc.

2. Retrobulbar neuritis, inflammation of the papillomacular bundle (central scotoma).

Eventual result temporal atrophy.

3. Primary atrophy, especially in tabes or primary degeneration.

4. Glaucomatous excavation—pressure atrophy—nasal narrowing of the visual field.

All of us are familiar with the temporal conus in the lower grades of myopia and occasionally meet it in hyperopia. This also bears no relation to the vision. With correction full vision is the result, but in the high myopias even with intact macula we rarely are able to get more than 20/50 because of the changes in the nerve itself which lie behind the disc, taking on a form of optic neuritis. This accounts largely for the pallor of the discs seen in high myopia. Just as a clinical reminder it is not out of place to comment upon the albino type of fundus found in the high myopias. This is due to the rarification of the choroidal pigment. Remember there are two kinds of staphyloma in the posterior part of the eye, the true and the false, and Schnabel was the first to distinguish them. True staphyloma is usually found on the nasal side and represents a true ectasia of the sclera. It is diagnosed by its position, its concentric form and the difference in level. The false staphyloma is due to the peculiar entrance of the optic nerve and its displacement more to the nasal side. Remember the optic nerve in myopia is slightly larger and its lymph spaces are larger. For the explanation of the false staphyloma, Heine, of Breslau, gives the best explanation. At the entrance of the optic nerve he distinguishes three foramina, the scleral, choroidal and the retinal; with an increase in the size of the eye these three structures have different forms of resistance. The sclera and retina give way in equal measure, but the lamina elastica—because of its elastic power—is more resistant. That is what Heine called the relative retraction of the lamina elastica; because of its intimate connection with the fibers of the optic nerve traction occurs and the fibers between the sclera and the retina are drawn to the sides and pressure atrophy results. If the traction is equal in all directions there occurs a retraction of the choroidal foramen, but on the temporal and nasal sides, the result being a ring conus. If the lamina elastica gives way in the same degree as the retina and choroid, but more to the temporal side, temporal conus results.

DISCUSSION.

H. S. WEAVER: Dr. Nagle's paper is a very thorough one and treats of all the complications that any of us are ever likely to see. When you have a case of this kind to treat it is well to tell the parents beforehand that the treatment is sure to be tedious and to tell them the probable length of time that will be required. There is apt to be an intense photophobia. In one case, a young girl of ten years with a violent attack of interstitial keratitis, there was the most intense photophobia

that I have ever seen. The room was dark—intensely dark—and the eyes were covered with a bandage, and yet if anyone raised the curtain six inches she cried out with pain and begged for greater darkness. I have had one of those cases that involved the whole cornea and sclerated it. When the acute symptoms subsided the cornea was as white as the sclera. I treated it for four years before there was much improvement. The vision is now 20/70.

I had the misfortune eighteen months ago to have a case of acquired syphilis come into my hands with interstitial keratitis, plastic iritis and adhesion of the iris to the anterior aspect of the lens; when the iris dilated it left a very irregular opening. At the end of the second day acute glaucoma developed with absolute blindness: there was such a chemosis of the conjunctiva that he was not able to close the lids. The patient weighed 200 pounds. I put him on substantial doses of Epsom salts every morning and may say that it had the desired effect. I also used eserine locally and gave him the red iodide of mercury with a few drams of potassium iodide. At the end of one week the tension was normal, but I had the iris down to a pin point.

How should it be dilated? I started with dionin and atropin, using them alternately three hours apart. At the end of two weeks' treatment I had complete dilatation and 20/20 vision. The vision of the other eye had been lost in a previous attack of iritis; it was fixed and he could not read with it.

R. S. COPELAND: A little patient was brought to me some time ago with a well developed interstitial keratitis in one eye. She had been under the care of another physician for a number of months, so that the case had been running for three or four months when I first saw it. I told the mother of the usual slow course of the disease and mentioned that it would take anywhere from six months to a year to bring the little girl to full recovery. I used locally a preparation that was given to me by Dr. Ball and put up by Nelson Baker and Company, containing dionin, iodosyl and atropin. This preparation was used in the patient's eye twice a day and, in addition, I prescribed on the symptoms sulphur 30. The patient was sent home with directions to come back in six weeks (she lived some distance from me). When she returned in six weeks, to my great astonishment she was entirely and absolutely well, remaining so to this day.

G. A. SHEPARD: Traumatic interstitial keratitis is a very uncommon condition. Two cases have come under my observation which I called interstitial keratitis, but I have wondered whether it was a proper diagnosis. The first case was a woman aged 30 years without serious constitutional symptoms except some uterine trouble. She had received a blow on one eye and showed well-marked iritis and keratitis. I took her into the hospital and treated her in the usual way, but gave her internally sepia 3x; in two weeks the cornea had cleared up almost entirely. The question in my mind was whether the interstitial keratitis was due to the blow or to some constitutional fault.

The other case was a boy who showed some of the stigmata of hereditary syphilis; he received a blow on one eye and for some weeks suffered with the symptoms of interstitial keratitis. It cleared up so much quicker than any other case of that disease that I ever saw that there remained a doubt in my mind whether the diagnosis was correct or not.

GEORGE RAIGUEL: It is important to remember that the position of the infiltration may be either central or peripheral and it may be more opaque in some places than in others; there is not always the regulation appearance described in the text-books as resembling ground glass. Likewise the variability of the vascularization is noticeable. The tufts of vessels which appear in the deep layers of the cornea may present a characteristic fanshape or tuft may intertwine with tuft until the appearance is so uniformly vascular that the entire cornea seems to be one mass of vessels. All of these vessels may not be in the deep layers, for at times we may observe in the superficial layers branches of the ciliary, but it is of importance to recognize these. There is also a noticeable variability in the absorption of the products of the inflammation. It is possible that the vessels may all be absorbed and the resulting vision be 20/20, but this is not of frequent occurrence.

But little study has been given to interstitial keratitis with the microscope; aside from the fact that the disease is limited almost exclusively to the deep layers we know but little about the progress of the disease. We do know that complication of the anterior layers of the cornea is so infrequent that we can consistently declare—because of our embryological study—that an interstitial keratitis never occurs without uveal complications.

The course of the disease is always chronic and the patient despairs of ever recovering his eyesight. The symptoms of irritation are very pronounced when the disease is at its height, but soon subside and an apparently rapid recovery begins, to be followed by a slower progress as the center of the cornea is approached, so that it is late in the course of the disease before the patient is able to see with any acuteness of vision.

The prognosis of the disease is good, but not all cases have the absorption taking place as we would like to have it; vessels may remain or opacities of various sizes may fail to disappear. Softening of the cornea may occur and the intraocular pressure cause it to bulge with resulting opacity; conversely there may be a flattening of the cornea together with opacity and consequent entire loss of vision.

We seldom find cases which go on to ulceration; although we may find foci of leucocytes the process is limited by the membranes of Descemet and Bowman. Hypopion is also rare.

The iris may be but slightly involved or the uveal inflammation may be most profound, leading even to atrophy of the eyeball.

In many cases it seems to be impossible to get any action from atropin even in the cases where there is but slight iritic involvement. This

has been explained satisfactorily, possibly, that owing to the intense inflammation sufficient atropin does not enter the aqueous to affect the iris. This is an unfortunate circumstance, as in the cases complicated by an intense iritis we are helpless in preventing serious posterior synechiæ.

Choroiditis is undoubtedly a complication in most cases of interstitial keratitis; unfortunately we are unable to watch its course owing to the corneal opacity. The peripheral type is most common, as Dr. Nagle has mentioned.

Too much stress cannot be laid on the fact that patients should be warned that both eyes are likely to be attacked, but there is also a happy knowledge that recurrences are rare.

The chief characteristic—the keynote—of this disease is that it is extremely variable, differing often in the two eyes of the same individual. The etiology is well known; with the exception of a few rare cases it is syphilitic in origin. Next to syphilis, the most frequent cause is tuberculosis. I had under my care a child of ten years in which this disease was present who would not respond to antisiphilitic treatment. I subsequently used the Von Pirquet diagnostic method of treatment and improvement was very rapid. It occurs to me that the case cited by Dr. Copeland was probably tubercular. That syphilis is the cause of interstitial keratitis has been conclusively demonstrated by the introduction of syphilitic material into the anterior chambers of monkeys and other animals with a resulting corneal condition resembling in its clinical manifestations the disease as known in the human being; the corneæ of these animals have been found to contain the spirochætæ.

DR. NAGLE: In regard to the scar tissue left sometimes as a result of this disease, there are two kinds—the vascular and the avascular. That which is formed from blood vessels is of a different quality and more readily removed than that formed from the thickened cells of the cornea itself. Another drawback is that the remains of blood vessels or of their lumen may make the individual astigmatic for the rest of his life.

It has been proved that the spirochætæ can exist in the clear cornea.

SOCIETIES.

PRESIDENT'S LETTER.

AMERICAN HOMŒOPATHIC OPHTHALMOLOGICAL, OTOLOGICAL AND
LARYNGOLOGICAL SOCIETY.

Fellow Members:

Having had the honor of the presidency thrust upon me, I am naturally anxious that the society shall make some progress during the coming year both numerically, in increased membership, and in the quality of the work done as a scientific organization.

In the first place, I ask every member to keep the society much in mind and to speak about it, discuss its present usefulness and future possibilities with other members and to let no opportunity pass to secure new members. If every one will say a few words to show that he believes in the society when in conversation with other members or non-members, there will be a tremendous influence exerted in favor of the society. The good seed sown in this way cannot fail to bear fruit in increased membership and activity sooner or later.

The universal trend of the current of medical thought today is in the direction of the prevention of disease and we must take some active part in the movement if we are to keep our place in the march of progress.

I have suggested that we make prophylaxis the leading thought for our meeting next summer. The subject considered in its many-sided relations to the specialties we represent is not a limited or a hackneyed one and when treated by men of experience and skill should afford material that will not only be of interest but set a new mark in the annals of preventive medicine and redound to the credit of the American Homœopathic Ophthalmological, Otological and Laryngological Society. I wish to have a symposium on this subject covering the eye, ear, nose and throat, and papers along this line will be especially acceptable, but I do not mean to limit all the papers strictly to it. I shall welcome contributions from men who have a message for us whatever it may be. I only ask that you will let me know early what you will write upon.

I have been conscious of vague, miasmatic emanations in the professional atmosphere to the effect that the men from the country did

not get an equal chance with the city men at the meetings. The impression, if it really exists, probably arises from the fact that most of our men are in the large cities and is, of course, without foundation. We want papers on live subjects from good men anywhere. If you write R. F. D. after your P. O., so much the better. Please send me the title of your paper—as required by the by-laws—before the first of January.

Let us work together to make next year's meeting the best attended, the most enthusiastic and the most prolific in the history of the society.

GEORGE A. SUFFA.

THE SOUTHERN HOMŒOPATHIC MEDICAL ASSOCIATION.

The 28th session of the Southern Homœopathic Medical Association was held in Marquette Hotel, St. Louis, Mo., on October 4th, 5th and 6th.

The meeting, interesting and lively thruout, was welcomed by President L. C. McElwee, of the St. Louis Society, to which H. R. Stout, of Florida, responded. The morning was given up to business and the afternoon to papers, which were read and heartily discussed. The program was an excellent one both from a scientific and social standpoint.

Thursday afternoon Field Secretary H. R. Arndt delivered an eloquent address, appealing for more thoro organization and hearty co-operation. A tallyho party to Aviation Field was followed in the evening by a banquet with Dr. C. H. Goodman as chairman.

Friday morning at 8 o'clock a very interesting clinic was conducted by Dr. Willis S. Young at the City Hospital preceding the regular meeting at 10:30 o'clock.

The following officers were elected for the coming year:

President, Dr. F. A. Reed, Eustis, Florida.

First Vice President, Dr. A. H. Schott, St. Louis, Mo.

Second Vice President, Dr. W. H. Schwartz, Houston, Texas.

Treasurer, Dr. H. Warren Johnson, Knoxville, Tenn.

Secretary, Dr. Lee Norman, Louisville, Ky.

Necrologist, Dr. A. Leight Monroe, Miami, Florida.

The place of the next meeting will be Richmond, Virginia.

HOMŒOPATHIC MATERIA MEDICA AND THERAPEUTICS.

SOME EAR SYMPTOMS.

Ailanthus.—Pain in the ear when swallowing. The ear, when touched or scratched, gets red all over. Aggravation generally in the morning.

Alumina.—Redness and heat of one ear. Tinnitus: buzzing as if outside the ear; humming, roaring, whistling; as of large bells. Crepitation in the ears on swallowing or chewing. Sensation as if something before the ear on blowing nose, opens on swallowing. Chronic otitis media purulenta; granulations bleed, discharge very offensive.

Aggravation.—Morning on waking; evening; on alternate days in winter; taking cold food.

Amelioration.—In open air; from cold washing; while eating warm food.

Amyl nitrite.—Throbbing in ears, bursting sensation as if the membrane would be forced out with each beat of the heart. Ear burns.

Antimonium crudum.—Moist eruption on external ear, and behind it. Otorrhea. Otitis media catarrhalis chronica. Heat and tension in the ear, aggravated by heat. Pain in ears; ringing and roaring; drawing thru right ear and Eustachian tube; redness, burning and swelling of left ear.

Aggravations.—Morning; evening; night. After eating, wine, bathing, and from touch.

Amelioration.—During rest; in open air.

Apis.—Sensitiveness to noises; hardness of hearing; otitis (after scarlatina); redness and swelling of ears; erysipelas; violent pain in left ear when chewing; shooting and burning in ears.

Aggravation.—In morning; from warmth.

Amelioration.—Cold water.

Argentum nitricum. Deafness. Chronic catarrh of the ear. Otalgia; stitches from right into left ear; tearing pain in ears; fullness and ringing.

Aggravation.—Night; morning; warmth; cold food; walking or riding; after eating.

Amelioration.—Fresh air; from eructations.

Arnica.—Noises in the ear, caused by rush of blood to the head; buzzing and humming with deafness; great sensitiveness to sounds; bruised pain in ears; suppurating otitis, with stupor.

Aggravation.—Morning; at rest; lying down; wine.

Amelioration.—Evening and night; from motion.

ABSTRACTS.

Adenocarcinoma of the Ciliary Body. C. Knox Shaw. (Ophthalmic Surgeon to the London Homœopathic Hospital.) For many years past it has been a moot point whether the eyeball contained any glandular element, and numerous experiments have been made to ascertain the source of the aqueous humor; these, together with pathological observations, lead to the belief that the ciliary body has a secretory function. In 1891 Mr. Treacher Collins presented a paper to the Ophthalmological Society of Great Britain on "The Glands of the Ciliary Body in the Human Eye," in which he showed, by means of carefully prepared bleached sections, that there are situated in the region which experimental evidence has proved to be the part from which the aqueous humor and nutrient fluid of the vitreous are secreted, numerous little tubular processes of epithelial cells, which can be nothing else than glands concerned in their elaboration; that the nature of these processes has been hidden by their pigment and is only rendered evident in bleached sections; that these glands are, like secreting glands elsewhere, subject to attacks of catarrhal inflammation, which gives rise to the group of symptoms generally included under the term serous iritis. That as the result of chronic inflammation there may be considerable overgrowth of tissue, which overgrowth preserves a glandular character; and that they may be the seat of tumor, either adenoma or glandular carcinoma.—*Trans. Ophthal. Soc.*, XI., 62.

In Mr. Herbert Parsons' *Pathology of the Eye*, in the chapter on the ciliary body, he describes depressions, filled with epithelium, as existing in the pars ciliaris retinæ and calls them the "glands of the ciliary body," tho later (Vol. I., p. 361), when writing of adenoma of the ciliary body, he says, "the diagnosis of an adenoma presupposes the existence of glands, and this question must still be regarded as *sub-judice*."

Several observers have reported adenomata, as well as primary carcinomata of the ciliary body, descriptions of which will be found in Parsons' work on the *Pathology of the Eye* (Vol. I., p. 360, 361), but none seem to be so typical an adenocarcinomatous nature as the remarkable case now reported, which adds confirmation to Mr. Treacher Collins' view that the ciliary body contains glandular structures.

April 20, 1910, D. H., a little girl, aged 10. Between two and three years before that her mother had noticed a small brown spot on the iris of the right eye at the sclerocorneal margin, which had slowly and painlessly increased in size but had given rise to no subjective symptoms whatever except a gradual failure of vision in that eye for the last two months. Otherwise the child seemed in perfect health. R. v. = 6/60. L. v. 6/5.

There was iridodialysis of the upper temporal border of the right

iris for 7 mm.; the detached border of the iris being incurved, with blood vessels of some size running along it. At a small portion of the sclerocorneal margin the cornea was sclerosed. Between the detached portion of the iris and the corneal margin there was a brown chocolate colored growth of irregular surface arising from the ciliary region, which extended behind the iris and could be seen to present slightly in the pupillary area. The pupil was irregular in shape, and the lens, which appeared to be slightly displaced, had commencing opacity at its outer border. Tension was normal. The ophthalmoscope, beyond showing that the growth was confined entirely to the ciliary region, revealed no other abnormality. The eyeball was removed at once, a section made and mounted, and microscopical sections prepared.

The extremely interesting nature of the case was at once apparent, and the slides were submitted to Mr. Treacher Collins and Professor Fuchs, of Vienna, who has made an exhaustive study of the subject. The following report, prepared by Dr. Adrian Wilson, then pathologist to the Westminster Ophthalmic Hospital, is based upon their reports.

On inspection the eyeball was of normal size and contour, and no irregularities were evident on the surface.

On bisection the lens is seen to be dislocated and pushed away by a tumor situated in the ciliary region, which encroached in front on the anterior chamber, causing it to be very shallow on this side, and also invaded a portion of the iris. The remaining parts of the globe are *in situ* and appear normal to the naked eye.

Microscopically the tumor exhibits the following characteristics:

(a) It is composed of large epithelial cells, arranged in single rows which have become convoluted. In many places two rows of cells, of a single layer each, lie in contact with one another.

(b) These cells are similar in character to those described by Mr. Treacher Collins as existing in the glandular structure, the pars ciliaris retinae.

(c) They are seen to be invading the cellular tissue of the iris in a way characteristic of malignant cells.

(d) There is a very definite fibrous tissue stroma dividing up the groups of cells into alveoli.

(e) Most of the cells of the growth are unpigmented tho some show a few granules in them.

From the above characteristics it conforms to the adenocarcinomatous type of growth.—*Hom. World*, Nov., 1911.

A chronic suppuration in the middle ear may be due entirely to an adhesion near the floor and internal wall, forming a pocket in which pus may lodge.—*A. J. of S.*

Irrigating the throat with ice water from a fountain syringe will frequently relieve the congestion and give great comfort in cases of acute follicular tonsilitis.—*A. J. of S.*

BOOK REVIEWS.

MEDICAL DIRECTORY OF NEW YORK, NEW JERSEY AND CONNECTICUT, 1911. Published by the Medical Society of the State of New York. 17 W. 43d Street, New York.

Altho this, the thirteenth volume of this invaluable publication, contains 208 more names than last year (17,486 now), it is not so thick a book. All the pages are now of white paper. New York state (13,641) has gained 167 practitioners; New Jersey (2,582) but 24, and Connecticut (1,401) is on flood tide to the extent of 17 names. Greater New York (7,249) has gained 80 and the rest of this state (6,392) 87. Manhattan and Bronx lost 11—fallen to 5,093—Brooklyn (1,884) has gained 81, Queens (205) 7, and Richmond (67) increased its roster by 3.

A cursory review reveals but one or two misprints—truly a remarkable tribute to the anonymous committee which gets out the book—and a few errors in staffs which are doubtless due to the correspondents, except the undoubted typographical error of "T. E. Teep" vice president of the American Homœopathic O., O. and L. Society meaning C. E. Teets, of New York.



